PCE Area Interim Measures Report

Former Willow Run Powertrain Plant
Ypsilanti, MI (MID 980 587 893)

RACER Trust

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Executive Summary

This updated Interim Measures Report (Report) details historical environmental conditions and recent environmental investigations in the PCE Area at the Former Willow Run Powertrain property in Ypsilanti, Michigan (Site). The PCE Area is an area of interest within the Site with historical chlorinated volatile organic compound (CVOC) impacts in soil and groundwater. This Report presents analytical data and groundwater flow monitoring in the PCE Area over time, and a plume stability assessment. The plume stability assessment includes a groundwater surface water interface pathway analysis of the impacted groundwater, 3-dimensional modelling and statistical analysis of CVOC concentrations and plume characteristics, and a discussion of natural attenuation conditions on the Site.

The conclusions of the plume stability assessment are summarized below.

– No direct pathway exists for CVOC impacted groundwater in the PCE Area to interface with or migrate to downgradient surface water receptors
– Groundwater flow data indicate there are no significant drivers to move impacted groundwater toward a surface water body.
– Land use restrictions on Site prevent direct human exposure of impacted soil or groundwater
– The vapor intrusion to indoor air pathway is not complete in the PCE Area.
– Concentrations of CVOCs are delineated and decreasing or stable at groundwater monitoring locations in the PCE Area
– The PCE plume extent has decreased in total mass, volume, and plan area since monitoring of the area began
– Linear projections of the PCE plume dynamics indicate attenuation of the plume may result in CVOC impacts below relevant criteria by 2032–2050
– Site conditions are favorable for natural attenuation and reductive dechlorination of CVOCs to occur

The assessment presented in this Report indicates that the PCE Area impacted groundwater presents minimal risk to human health and there are no indications that migration of groundwater will affect current risk levels. The proposed long-term plan of the PCE Area includes groundwater quality and flow monitoring every three years for ten years.

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1. Introduction

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), GHD Services Inc. (GHD) has prepared this updated Interim Measure (IM) Report (Report) for the PCE Area. The PCE Area is located near the southeastern portion of the property at the Former Willow Run Powertrain site located in Ypsilanti, Michigan (Site). Figure 1 presents the Site location.

1.1 Purpose

The purpose of this Report is to summarize historical operations and redevelopment activities at the Site, present analytical data from environmental investigations, evaluate the potential risk to human health and the environment presented by chlorinated volatile organic compound (CVOC) impacted soil and groundwater in the PCE Area and present recommended actions. The PCE Area has been the subject of on-going investigations and remedial actions focused on CVOCs since 2018, when GHD and RACER presented the Michigan Department of Environment, Great Lakes, and Energy (EGLE) the *Interim Measures Work Plan – PCE Area Memorandum* (GHD, 2018). This Report presents an evaluation of the data collected from various sampling activities conducted throughout 2016–2024. The evaluation includes groundwater surface water interface (GSI) pathway analysis, statistical analysis of CVOC plume stability, and a review of attenuation conditions in the PCE Area. The details for the proposed long-term plan are provided at the conclusion of the Report.

Certain aspects of the work completed in connection with preparing this Report were limited by what information was known at the time of the completion of the work. The opinions, conclusions and recommendations in this Report are based on information and conditions encountered and reviewed at the date of preparation of the Report.

2. Background

2.1 Site History

Historically, the Site was used for agricultural purposes until 1940 when the land was purchased by the Ford Motor Company to be developed as a war time bomber production plant. The former Willow Run Powertrain plant operated from the 1940s through 2010 to produce airplanes and automobile components by various entities. Post war operations primarily included machining, cleaning, painting, and assembly of metal parts and products. RACER assumed ownership of the property in 2011. In 2013, demolition of the Main Plant Building and the powerhouse began at the Site and was completed in mid-2015. Prior to demolition, a portion of the property was sold to Yankee Air Force to be developed into the Yankee Air Museum (YAM) now Michigan Flight Museum (MFM). In November 2016, the remaining property was sold to the Willow Run Arsenal of Democracy (WRAD) for development of the American Center for Mobility (ACM), an autonomous vehicle testing facility. RACER retains responsibility for managing known below grade environmental impacts from the former GM operations, including the CVOC impacts. Figure 2 depicts the current Site ownership boundaries and identifies the PCE Area.

The groundwater at the Site has been impacted by past industrial activities and includes the presence of light non-aqueous phase liquids (LNAPL) and dissolved phase constituents. The Site-specific constituents of concern (COC) in the PCE Area include CVOCs: tetrachloroethene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC).

2.1.1 PCE Area

Shallow soil and groundwater impacts associated with PCE are present in the vicinity of the former Plant Engineering Building footprint located in the southeastern portion of the Site (PCE Area). The Plant Engineering Building footprint

as well as other historical surface features are presented on Figure 3. Three potential source areas associated with the PCE impacts have been identified; they are Areas A, B, and C. Potential PCE Area source locations and the associated current monitoring well network are presented on Figure 4. The potential source locations were identified following soil delineation activities in 2017, discussed in detail in Section 3.2.1 *Soil Delineation*. A limited excavation was conducted in Area A between July and September 2018. A detailed description of this work is presented in Section *3.2.2 Soil Excavation Area A*.

Historical CVOC groundwater impacts were observed near the maintenance building due west of the PCE Area, shown on Figure 4. Analytical data show that CVOC impacts near the maintenance building have attenuated to below EGLE VIAP screening levels. A discussion of CVOC attenuation and groundwater impacts in the area of the maintenance building was provided under separate cover in *PCE Area Update, Section 3 (GHD, 2024)*.

2.2 Land Use and Restrictions

Long term Site restrictions include limiting the Site to non-residential uses, prohibited use of groundwater for drinking water or irrigation, and the requirement for future development to protect existing storm sewer systems, and maintenance of impervious surfaces as impervious. The PCE Area also requires an evaluation of the potential vapor intrusion pathway or presumptively install mitigation methods prior to the construction of any new structures.

All restrictions described above apply to the PCE area. In addition, there is a declaration of restrictive covenant (DRC) that was recorded in 2016. Per this DRC, to prevent potential exposure to soil containing elevated levels of VOCs, there shall be no digging or removal of in place cover/soil from within the PCE area without written approval from RACER and EGLE.

Land use restrictions and restrictive covenants minimize the risk posed by impacted soil and groundwater to human health and the environment.

2.3 Geology and Hydrogeology

The geology underlying the Site consists of three groundwater zones- shallow, intermediate, and deep. Each zone is separated by a clay layer as shown on Figure 5. The geology and hydrogeology shown on Figure 5 is consistent with those observed in the PCE Area. The groundwater zones are as follows:

– Shallow Zone – Consists of fill and native soils, predominantly poorly grated “clean” sand and silty sand. Is typically 8 to 12 feet (ft) thick across the Site; thicker beneath the eastern portion of the former building footprint (up to 16 ft) and thinner to the south of the former building footprint (as little as 5 ft).
– Intermediate Zone – Consists predominantly of silty sand. Is thickest in the southwestern areas of the Site (up to 8 ft) and gradually thins to the north and east. Interpreted to be absent beneath the northeastern and eastern area of the Site.
– The shallow and intermediate zones are often hydraulically connected on-Site since the clay unit between them is thin (typically 2 to 5 ft) and it is often penetrated by historical anthropogenic features associated with the Powertrain Plant such as pits, steam tunnels and storm sewers.
– Deep Zone – Consists of layered silt and silty clay with silt typically comprising 40 to 80 percent of the unit. At the Site, the unit is discontinuous with a thickness ranging from 0 to 12.5 ft. The deep zone occurs at a depth of about 70 ft and where present on-Site is overlain by 47 to 62 feet of a regionally extensive clay unit. It is therefore not hydraulically connected to the shallow or intermediate zones within the site boundaries.

2.3.1 Site Groundwater Flow Direction

Since 2013 significant redevelopment and remedial activities have occurred, some of which have influenced groundwater levels, flow direction and water quality. The most significant changes include demolition of the Main Plant Building and the on-Site wastewater treatment plant (WWTP), both of which included removal or abandonment of subgrade structures that previously interfaced with groundwater which required dewatering until abandonment of the

historical storm sewer system that had previously captured infiltrating groundwater. Water levels across the Site increased in elevation as a result of these redevelopment activities and flow direction changed from generally inward to east/southeast beneath the former Main Plant Building footprint.

The groundwater collection system, located at the southeast property boundary, was constructed during the second half of 2017 and began operation in 2018. The system consists of four sections of collection pipe (French drain), a discharge force main, sumps/controls vaults and cleanouts. Each of the French drain sections can operate independently based on variable speed submersible pumps and water level sensors. When operational, collected groundwater is pumped through the force main and discharged through a monitoring point/manhole to the sanitary sewer. During steady state conditions, the discharge flow rate averaged approximately 35–40 gallons per minute. Listed below are brief descriptions of the main components of the groundwater collection system.

- French drain collection pipe: four separate sections of perforated 6” slotted high-density polyethylene (HDPE) pipe installed at a depth of approximately 15–17 feet below ground surface (bgs).
- Force main: 4” HDPE pipe installed at approximately 6–8 ft bgs, this pipe is the common header that conveys the collected water to the discharge point.
- MH-102: discharge manhole and monitoring point for the groundwater collection system
- Vaults 1 and 2: underground vaults that house the various pipe runs, control boxes, and flow meters for the groundwater collection system.

The groundwater collection system was turned off in November 2022 to assess groundwater elevation and groundwater quality without influence of the collection system. Currently, the groundwater collection system remains turned off. Following the redevelopment activities and French drain influence, water levels were collected semi-annually in 2019 and 2020. The frequency was then reduced to annual level gauging from 2021 to 2023. Water levels have been generally consistent in 2021–2023.

2.3.1.1 PCE Area Groundwater Flow Direction

Recent groundwater levels were collected in the PCE Area seasonally in 2023 and 2024 to determine variability between weather conditions. Results from the groundwater level collection events in May 2023, August 2023, December 2023, and March 2024 were consistent. Groundwater in the shallow zone flows primarily toward the east and southeast toward the Willow Run Airport property. Although the groundwater collection system has been off for over a year, groundwater continues to flow toward the downgradient property boundary, which is consistent with pre-French drain installation. Groundwater in the intermediate zone flows from the central area of the Site to the east toward the Willow Run Airport property. Groundwater contour maps between 2016 to 2024 are included in Appendix A.

2.4 Site Redevelopment near PCE Area

Several redevelopment and construction activities have occurred on Site that may have influenced past groundwater dynamics. Activities listed below are those that may have affected groundwater conditions in the PCE Area.

- In 2018, demolition of the WWTP and wastewater treatment tanks to the west and south of the PCE Area, respectively, was completed.
- In 2018 storm sewer network closure was also completed. This work included capping of slab penetrations, installation of storm sewer bulkheads, capping of former truck docks, and capping and/or flow-fill of storm sewer manholes.
- In 2018 a lined storm water swale and detention basin were constructed on the southeast portion of the Site to manage storm water runoff.
- In 2018 approximately three feet of asphalt millings were placed over the surface of the PCE Area by ACM and graded to promote surface water sheet flow to the adjacent swales and to limit infiltration to the impacted soils.

– In 2020, further storm sewer closure activities on the south portion of the Site were completed. These activities included capping manholes, flow filling manholes, and bulkhead construction.

3. Environmental Investigations and Actions

Since RACER assumed ownership of the Site in 2010, a variety of environmental investigations have been completed. These investigations include soil delineation activities, groundwater analytical monitoring, and groundwater level gauging. Environmental sampling events were conducted as part of investigations targeted at specific areas of interest, as well as Site-wide monitoring programs. The following sections detail the environmental investigation activities relevant to the PCE Area and associated COCs.

3.1 Relevant Criteria

Analytical data was screened against EGLE Part 201 Generic Cleanup Criteria, as amended, and is consistent with previous analytical reporting for the Site. EGLE Part 201 criteria include Residential and Non-Residential Drinking Water (RDW, NRDW), Groundwater Surface Water Interface (GSI), Residential and Non-Residential Groundwater Volatilization to Indoor Air Pathway (RVIAP, NRVIAP), Water Solubility (WS), and Flammability Explosivity Screening Level (FESL).

In the figures and tables presented in this Report all screening criteria exceedances are noted. However, only GSI is relevant to the PCE Area. Other criteria are not relevant, or pathways are incomplete for the following reasons:

– RDW/NRDW: On-Site deed restrictions limit use to non-residential and prohibit use of groundwater for drinking water or irrigation. Off-Site the RDW and NRDW pathways are incomplete because there are no drinking water wells in the near downgradient area and the area is served by a public water supply.
– RVIAP/NRVIAP: On-Site deed restrictions limit use to non-residential and require the VIAP pathway to be evaluated or mitigation methods installed prior to new structures being built. Surface structures that would require VIAP mitigation do not currently exist in the PCE Area. Off-Site the VIAP pathway is incomplete because there are no residential or non-residential structures near downgradient area.
– WS: Water solubility criteria is not relevant to the COCs in the PCE Area
– FESL: COCs relevant to the PCE Area do not have FESL criteria screening levels

3.2 Soil Activities

3.2.1 Soil Delineation

In 2012 elevated concentrations of PCE were discovered in the shallow soil above the water table while drilling the intermediate groundwater monitoring well CRA-711I. Following the elevated PCE detections, an initial soil delineation investigation was conducted between 2013 – 2014 that included 24 soil borings within the Plant Engineering Building footprint and the surrounding area. Elevated concentrations of PCE and TCE were detected in soil samples collected as part of this investigation.

A second soil investigation completed in February 2017, was conducted to complete the delineation of PCE impacted soils within and around the former Plant Engineering Building. This investigation included a total of 65 soil borings: 33 borings within the Plant Engineering Building footprint, 29 borings to the west, north, and east of the footprint, 3 borings south of the wastewater treatment tanks, and 7 borings on Wayne County Airport Authority (WCAA) property. Soil borings were drilled two feet into the first clay layer approximately 12–15 feet bgs. Analytical samples were taken in two-foot intervals to develop a vertical profile of CVOC impacts within the subsurface. The results of this soil investigation revealed three potential source areas (Areas A, B, and C) associated with PCE impacts. Analytical

results from soil delineation investigations were presented in databoxes in the *Interim Measures Work Plan – PCE Area* (GHD, 2018) and for ease of reference are provided in Appendix B (Figures A10 and A11) of this Report.

3.2.2 Soil Excavation Area A

In September 2018, PCE impacted soils were excavated in Area A. The extent of excavation was pre-determined based on historical sample data. Elevated levels of PCE were present in shallow soil (above 5 feet bgs) within Area A, whereas high levels of PCE were observed primarily within deeper intervals (i.e., between 5–12 feet bgs) within Areas B and C. Excavation and disposal of impacted soils for Area A were deemed a cost-effective option as the extent of impacts was less significant and shallow (in comparison to Areas B and C). In addition, due to the proximity of Area A to the recently constructed groundwater collection system, removal of the impacted soils reduced the potential of PCE to migrate to the groundwater collection system.

Prior to excavation of Area A, a private utility contractor located utilities in the area. Any historical utilities that were no longer in use, with the exception of the 84-inch storm sewer, encountered within the excavation area were removed or abandoned. Approximately 85 cubic yards of concrete and underlying gravel base were removed. All concrete removed was deemed suitable for recycling as crushed backfill; crushing was staged on-Site by other contractors as part of Site redevelopment.

Excavated soils were disposed of under three waste profiles: G188002MDI RCR Hazardous waste – pretreatment prior to landfill (6.84 tons), G188002WDI Resource Conservation and Recovery Act (RCRA) Hazardous waste – direct landfill (37.58 tons), and 122506MI – Non-Hazardous waste (862.22 tons). Post excavation, an infiltration gallery consisting of two 18-foot-long slotted PVC pipes with risers were installed prior to backfilling activities. The infiltration gallery was constructed in the deepest excavation area highlighted in orange on Figure 3 of Appendix B.

Groundwater monitoring within Area A continued as part of the PCE annual groundwater monitoring activities. Groundwater analytical results show excavation of source materials was an effective remediation strategy. PCE concentrations in groundwater near Area A decreased from 190 ug/L in May 2018, prior to excavation, to an average concentration of 1.88 ug/L between May 2020 and May 2023.

3.3 Groundwater Activities

3.3.1 Groundwater Flow Monitoring

Groundwater level gauging activities have been conducted since 2011 on Site on a routine basis including:

– Annual gauging: Fall 2011, Fall 2012, April 2013, and April 2014
– Quarterly gauging: from April 2015 to October 2018
– Semi-annual gauging: April 2019, December 2019, May 2020, and October 2020
– Annual gauging: May 2021, May 2022, and May 2023
– Groundwater collection system area: limited selection of wells from along the groundwater collection system area were collected on a weekly basis sporadically throughout 2018–2020. These water level events confirmed that the groundwater collection system was operating as intended with an inward gradient to the collection pipe near the Site property boundary where the system was installed.
– Quarterly level gauging of a limited selection of wells in and surrounding the PCE Area: August 2023, December 2023, and March 2024

Shallow groundwater flow has changed on Site as redevelopment and construction activities altered Site conditions. As discussed in Section 2.3.1, Site-wide groundwater elevations have increased following redevelopment. Historical groundwater flow on Site has changed from generally inward to east – southeast beneath the Main Plant Building footprint. The following discussion focuses on the shallow groundwater flow trends within the PCE Area. Attachment A provides the historical groundwater contour maps from 2016 to 2024.

Shallow groundwater in the vicinity of the PCE Area has exhibited localized variability between 2016 and 2024. In 2016 two localized low points existed in the PCE Area, centered around monitoring wells CRA-762M and MW-100. The low-point around CRA-762M is located within the footprint of the former WWTP, which was present but non-operational in 2016. Groundwater flowed towards the WWTP from the northeast, northwest, west, and southwest directions. The low-point centered around MW-100 was smaller in size than the one below the WWTP with groundwater flowing inward from the north.

In 2017 the French Drain was constructed, and by early 2018 the groundwater collection system was active. Additionally, the WWTP was demolished in 2018. The groundwater low points observed in 2016 were no longer observed by 2018. With the groundwater collection system on, groundwater flow on the east boundary of the PCE Area flowed east towards French Drain Line 3. However, the influence of the groundwater collection system in the PCE Area was limited, the extent of groundwater flow to French Drain Line 3 extended approximately 120 feet westward from the Line 3 pump. Shallow groundwater in the PCE Area generally flowed from northeast to southwest in this time period.

By late 2021, the groundwater collection system influence on groundwater flow in the PCE Area diminished due to the intermittent operation of the groundwater collection system. Demolition of the large WWTP tanks south of the PCE Area and placement of the millings on the PCE Area surface increased the groundwater surface elevation around the PCE Area. Shallow groundwater in the PCE Area illustrated a new dynamic in this time period. A localized groundwater mound formed within the center of the PCE Area. Groundwater here flowed away from the PCE Area to the west, east, and south. This groundwater mound in the PCE Area was observed in the following 2021 and 2022 annual groundwater level monitoring events. Groundwater contour maps between 2016 and 2024 are provided in Appendix A.

In 2023, the shallow groundwater dynamic in the PCE Area changed. Like previous years, groundwater flowed into the PCE Area primarily from the north and east. In 2023 groundwater contours within the PCE Area flatten, then groundwater flow continues in the east, southeast direction outside the PCE Area This groundwater flow pattern extends from the French Drain toward the western boundary of the PCE Area. In quarterly groundwater level gauging events since 2023, which included all PCE Area wells and set of wells surrounding the PCE Area, the flattened contour dynamic has remained consistent.

Overall, the groundwater elevation in the PCE Area has increased since 2016 as a result of Site redevelopment and construction activities. This increase in groundwater elevation was expected as the pressure acting on the groundwater surface decreased, stormwater handling changed, and sumps/pumps inside the building(s) were shut down. While the groundwater collection system was active (2018-2022), monitoring wells within the influence of the groundwater collection system exhibited decreased elevations. This trend was also expected, as groundwater was drawn away from monitoring wells toward the collection system. Currently, the shallow groundwater beneath the PCE Area behaves as a localized low point, drawing in groundwater from the north, west, and south directions.

3.3.2 Groundwater Quality

Since RACER assumed responsibility for the RCRA Corrective Action at the Site, groundwater quality has been monitored on a variable interval basis.

Throughout this Report, the discussion of CVOC impacted groundwater is focused on the shallow groundwater zone because the soil and groundwater impacts exist in the shallow zone. Intermediate groundwater monitoring wells are included in the level gauging and analytical monitoring programs for the PCE Area. Intermediate groundwater analytical data show no CVOC impacts above EGLE GSI criteria.

Groundwater sampling within the PCE Area has been conducted as part of Site investigations since 1989. Prior to 2013, sampling programs were limited to specific areas of investigation in response to several areas of interest (AOIs). Site strategy shifted to an overall sitewide approach in 2015 due to the aerial distribution of AOIs, light non-aqueous phase liquid (LNAPL) impacts, and largely inward groundwater gradient at that time. The PCE Area was first defined as such in 2016 with a restrictive covenant that outlined the bounds of PCE contaminated soils on Site. Groundwater

analytical data between 1989 – 2016 is intermittent, and for the purposes of this Report data from this time period is referred to as historical data.

In 2018, a sitewide groundwater sampling event was conducted to evaluate potential changes in groundwater quality since the last sitewide sampling event in 2013 (prior to demolition of the Main Plant Building). Groundwater analytical data from 2018 and historical groundwater analytical data indicated COCs within the PCE Area included PCE, TCE, cDCE, and VC. Some monitoring well locations located in the PCE Area were also included in additional sampling programs and analyzed for SVOCs and metals. These results were addressed under separate cover in *2023 Groundwater Sampling Summary & Update (GHD, 2023).*

As part of the ongoing RCRA Corrective Action at the Site, GHD implemented a three-year annual groundwater monitoring program proposed in the *Comprehensive Groundwater Quality Update, Section 6: Recommendations (GHD, 2021)*. Annual groundwater monitoring, including sampling, began in 2021 and concluded in 2023. The annual groundwater monitoring program was designed to assess the stability of COCs at the downgradient perimeter areas of the Site as well as continue monitoring of COCs within the PCE Area. Groundwater samples collected during these annual events were analyzed for VOCs. Sampling and analysis of select natural attenuation parameters (gases and general chemistry) was also conducted in the PCE during annual sampling events. During annual sampling events conducted in 2021–2023, concentrations of PCE, TCE, cDCE, and VC generally decreased in monitoring wells within the PCE Area. Two additional groundwater quality were complete in December 2023 and March 2024 to evaluate the extent of seasonal variations in groundwater COC concentrations. Generally, decreasing trends continued in Winter and Spring sampling events. A statistical analysis of concentration trends in the PCE Area is presented in Section 4.1.

Presented below is a summary table of CVOC exceedances of EGLE Part 201 GSI criteria observed in the PCE Area between 2018 and 2024 (Table 1). COCs in Table 1 are denoted by a unique, color-coded symbol. Monitoring locations without EGLE Part 201 GSI exceedances are not shown in Table 1. Groundwater analytical results screened against relevant EGLE Part 201 criteria are presented in Table 2. Figure 4 provides the locations of these wells.

Table 1 *EGLE Part 201 GSI criteria exceedances between 2018 and 2024*

	2018	2020	2021	2022	2023	2024
Symbol legend ▪ PCE | × TCE | Δ cDCE | • VC						
CRA-061M					•	•
CRA-106M	NS		▪ × Δ •	▪ × Δ •	▪ × Δ •	▪ × •
CRA-756M	•	•	•			
CRA-806M			•	•	•	
GHD-1134M	▪ × Δ	▪ ×Δ	▪ × Δ •	▪ × Δ •	▪ × Δ •	▪ × Δ •
GHD-1145M	▪ •	▪ •	▪ × •	▪	▪ •	▪
GHD-1151M	▪ •	▪ •	▪ × Δ •	▪ × Δ •	▪ × Δ •	▪ × Δ •
GHD-1220M	NS		Δ •		•	•
GHD-1223M	NS				•	
GHD-1226M	NS		•			
GHD-1229M	NS	NS	•	•	•	•
GHD-1209M	NS	NS	NS			
GHD-859M	▪ •	▪ •	▪ •	▪ •	▪ •	▪ •

PCE Area monitoring well locations not listed in the table have no detections above EGLE Part 201 GSI criteria. NS indicates the monitoring location was not sampled. Symbol legend: ▪ – PCE, × – TCE, Δ – cDCE, • – VC

Groundwater analytical data in the PCE Area show that the PCE plume is completely delineated. Groundwater monitoring locations downgradient of Areas B and C consistently show concentrations below EGLE GSI criteria. Delineation of the plume also includes PCE reduction products TCE, cDCE, and VC. The extent of the plume is illustrated on Figures C.2–C.5 in Appendix C. VC impacts exist on Site that are not associated with the PCE Area; however, the VC plume associated with the PCE Area specifically is fully delineated. A detailed discussion of the modeled VC plume is presented in Section 3.5.1.

3.4 DNAPL

In December 2016, dense non-aqueous phase liquid (DNAPL) was discovered in monitoring well GHD-1151M upon installation of the well. Following the DNAPL discovery, three temporary groundwater monitoring wells were installed 20 feet to the north, south, and east from monitoring well GHD-1151M, shown on Figure A.12 in Appendix B. DNAPL was not observed in the temporary monitoring wells. The DNAPL thickness in GHD-1151M has ranged between 0.39 feet to 1.12 feet, with an average thickness of 0.70 feet.

In June 2024, GHD implemented a scope of work to recover DNAPL from GHD-1151M via low flow pumping. Approximately 1 gallon of DNAPL product and groundwater was recovered on June 26, 2024. DNAPL thickness in monitoring well GHD-1151M was monitored weekly to evaluate recharge rate and extent of recharge. The DNAPL thickness had reached a maximum of 0.15 feet after six weeks since initial recovery. On August 22, 2024, approximately 0.75 gallons of DNAPL and groundwater were removed from the well. A total of 0.25 gallons of DNAPL has been collected from GHD-1151M to date. Continued DNAPL collection is planned.

3.5 3-Dimensional Model

GHD prepared a 3-dimensional Conceptual Site Model (3D CSM) of the PCE Area. The model includes shallow groundwater analytical data of PCE, TCE, cDCE, and VC between 2016 to 2024. Soil analytical data from 2012 to 2017 of the same COCs are also included. The model provides quantification and visualization of groundwater plumes and soil impacts in the affected area by interpolating analytical data in time and space.

Groundwater chemistry samples are plotted in 3-dimensional (3D) space using easting, northing coordinates, and ground surface elevations at each monitoring location. Screened interval depths are used to plot the well screens in the subsurface. The 3D distribution of groundwater concentration for each COC was estimated using 3D interpolation. The estimated groundwater impact is limited to below the groundwater elevation surface in the model. The groundwater elevation surface is modeled using the most recent groundwater elevation data from each monitoring well, combining the groundwater level from different years to bound the groundwater interpolation. The groundwater elevation surface was estimated using a 2D Kriging algorithm within a convex hull grid that has a nominal horizontal resolution of 10 feet and a nominal vertical resolution of 0.365 feet. The anisotropy of the COC concentration interpolation is set at 25:1, horizontal to vertical. Therefore, the interpolation of COC concentration distribution places 25 times more weight on spreading in the horizontal direction compared to spreading in the vertical direction.

The 3D spatial extent of groundwater impacts was estimated for each calendar year from 2016 to early 2024, excluding 2019 when groundwater sampling was not conducted on Site. When individual monitoring wells were sampled multiple times during one calendar year, the latest result for the year is used in the interpolation.

Several groundwater monitoring wells do not have continuous time series results because not all wells in the PCE Area were present and/or sampled each year between 2016 to 2024. To ensure a comparable spatial dataset for each calendar year, COC concentrations were temporally interpolated. Linear interpolations of COC concentrations were used between sampling events. When monitoring wells were not sampled at the beginning or end of the time series, 2016 to 2024, results from the nearest in time sample event at that well location were propagated forward or backward in time to complete the time series. An example of the temporal interpolation method is shown below:

2016	2017	2018	2020	2021	2022	2023	2024
← Backward Propagation of Actual Sample 2017	Actual Sample 2017	↔ Linear Interpolation between Actual Samples 2017 and 2020	Actual Sample 2020	Actual Sample 2021	Actual Sample 2022	Actual Sample 2023	→ Propagation of Actual Sample 2023

The 3D and temporal interpolation results from the gridding and interpolation parameters defined above are used to calculate the 3D volume, the 2D area in the XY plane (plane area), the average chemical concentration of the plume, the chemical mass in the plume, and the XYZ coordinates of the plume center of mass for each of the four COCs at each of the calendar years in the time series. Each of the calculated values is done so considering only the groundwater plume with concentrations at or above the GSI criteria level. The volume, 2D area, and average concentration values are derived from the gridding and interpolation results. The chemical mass of the plume is calculated using the volume and concentration distribution results with assumptions of 25% average soil porosity and a chemical density for each COC listed below.

- 1.622 g/cm^3 for PCE
- 1.460 g/cm^3 for TCE
- 1.280 g/cm^3 for cDCE
- 0.911 g/cm^3 for VC

Soil concentrations from 2012 to 2017 are plotted together without temporal consideration with the assumption that adsorbed COC concentrations are constant over a short-term timeframe (less than 10 years). Impacted soils in Area A on the east side of the PCE Area were excavated in 2018. The 3D model allows the user to toggle on/off soil

concentrations within Area A. The 3D distribution of soil concentration for each COC was estimated using 3D interpolation via a 3D Kriging algorithm within a convex hull grid with a nominal horizontal resolution of 5 feet and a nominal vertical resolution of 0.25 feet. The grid extent was set by a convex hull around all data points with a 10% boundary offset, which allows extrapolation of 10% around the data. The anisotropy of the COC concentration interpolation is set to 30:1, horizontal to vertical.

A link to the full, interactive 3-D model is provided below. Appendix C presents plume time series figures and cross section figures for the reader's convenience.

https://viewer.ctech.com/inline_viewer.html?apikey=E5277AD48ECCEDAE&include_info=false%20&model=https%3A%2F%2Fmrdemodels.blob.core.windows.net%2Fautomodels%2F12602792_RACER-Willow-Run_PCE-Soils_v02.ctws

3.5.1 Monitoring Well Selection for 3D CSM

Groundwater monitoring locations were selected for inclusion in the 3D CSM based on their CVOC impacts, spatial proximity to PCE source locations, and spatial orientation around the extent of the PCE plume. All monitoring locations in the PCE Area monitoring well network, as shown on Figure 4, are included in the model. These locations include CVOC impacted groundwater monitoring wells and sentinel wells around the PCE plume.

Several groundwater monitoring well locations north of the PCE Area within the Main Plant Building footprint, and east of the PCE Area near the YAM property were included in the 3D model. These north and east wells serve to bound the extent of the VC plume in the PCE Area. A side effect of including these monitoring locations, located far outside of the PCE Area, is the formation of an apparent VC plume located to the northeast of the PCE Area in the model. This apparent northeast VC plume is discontinuous to the PCE Area plume and the model was not designed or used to evaluate the apparent VC plume. Historical concentrations of VC in this apparent northeast VC plume are discontinuous and sporadic and have been evaluated as part of the *Comprehensive Groundwater Quality Update (GHD, 2021)* and the subsequent three-year monitoring program along the property boundary. The results of which were presented to EGLE in *2023 Groundwater Sampling Summary & Update, Section 5 Evaluation of Analytical Results from 2021–2023 (GHD, 2023)*.

4. Groundwater Assessment

The groundwater quality data obtained over the past eight years for PCE, TCE, cDCE and VC were subjected to statistical analyses to evaluate progress of the groundwater remedy towards achieving cleanup objectives. In addition, key characteristics of the interpreted 3D plume were assessed. The focus of these assessments was to evaluate plume stability in groundwater quality parameter concentrations, determine the viability of natural attenuation in improving groundwater quality, and to consider potential risk of contaminated groundwater migrating to the surface water bodies with COC concentrations of potential concern. These elements are described and discussed in the following report subsections.

4.1 GSI Pathway Evaluation

As discussed in Section 3.1, the relevant criteria to the PCE Area are EGLE Part 201 General Cleanup GSI criteria. Groundwater on Site generally flows south, southeast. As a result, any potential interface between receiving surface waters and on-Site groundwater is likely to occur at Tyler Dam Drain located south of the Site (Figure 1). Tyler Dam Drain runs parallel to the south Site boundary along Airport Drive. The following sections discuss the GSI Pathway between Site groundwater and Tyler Dam Drain, factors that may influence transport of impacted groundwater to receiving surface waters, and analytical data from Tyler Dam Drain and Willow Run Creek surface waters. Analysis of the GSI pathway and analytical results show that the PCE Area plume demonstrates no measurable risk at potential receiving surface waters.

4.1.1 Groundwater Surface Water Interface

The PCE Area plume is located near the southeast property boundary of the Site adjacent to WCAA property. The plume is approximately 1,800 feet north of Tyler Dam Drain, the nearest receiving surface water body, a distance that prevents direct interface between the plume and surface waters. Sentinel wells are located downgradient of the plume to the west, south, southeast, and east. Analytical results from these sentinel wells show consistently that COCs are below EGLE GSI criteria or non-detect for PCE, TCE, cDCE, and VC. Therefore, impacted groundwater is not migrating downgradient towards Tyler Dam Drain. In fact, as discussed in Section 4.2, the extent of the plume (plan area, volume, and mass) is shrinking over time.

Shallow groundwater on the southwest portion of the Site feeds the intermediate zone, which is believed to be hydraulically connected to Tyler Dam Drain. CVOC concentrations in this portion of the Site have been consistently non-detect or detected below EGLE GSI criteria during annual groundwater quality monitoring events, the results of which are presented to EGLE in *2023 Groundwater Sampling Summary & Update, Section 5 Evaluation of Analytical Results from 2021–2023 (GHD, 2023)*.

The stability of the PCE Area Plume and non-impacted groundwater connected to receiving waters prevent risk to potential receiving surface waters.

4.1.2 Anthropogenic Pathways

Anthropogenic features can provide preferential pathways for groundwater to flow through the subsurface via direct infiltration to conduits or through the surrounding fill material. Analytical data in the PCE Area indicate that the utilities surrounding the PCE Area are not acting as conduits for PCE impacted groundwater to migrate off Site.

There are a variety of existing, combined old and new utilities, and abandoned historical Site utilities and subsurface anthropogenic features around the PCE Area that include historical electrical conduits, storm water sewers, water and fire mains, and sanitary sewers. Though not within the boundaries of the PCE Area, the French Drain is also a relevant subsurface structure because of its proximity to the east boundary of the PCE Area. Estimated historical and active utilities in the proximity of the PCE Area are presented on Figure 6.

A utility corridor that includes historical electrical utilities, water and fire mains, a sanitary sewer, and a historical storm water sewer runs east-west adjacent to Area B, shown on Figure 6.

Groundwater monitoring wells located along the utility corridor east of Area B (GHD-1229M, GHD-1209M), act as sentinel wells for impacted groundwater. Analytical data from these monitoring locations are consistently observed below EGLE GSI criteria for PCE and TCE. Groundwater monitoring wells (GHD-1226M, GHD-1223M, CRA-137M) between Area C and the downgradient historical storm sewer, are majority non-detect or when detected observed below EGLE GSI criteria for all CVOCs. These data show that impacted groundwater is not migrating along the utility corridor material and thus not migrating off Site via anthropogenic pathways.

As discussed in Section 2.4 Site Redevelopment near PCE Area, the historical storm water sewer network was closed in 2018. Closure activities included constructing bulkheads in 84” storm sewer adjacent to the PCE Area, shown on Figure 6. Closure of the historical storm sewer prevents impacted groundwater in the PCE Area from migrating south to the storm sewer discharge point at Tyler Dam Drain via the historical storm water network. Bulkheads were inspected in June and July of 2024. Storm sewer bulkheads remain in good condition.

4.1.3 Receiving Surface Waters

Tyler Dam Drain (former Tyler Pond) is the closest surface water downgradient of the Site (Figure 1). Water in Tyler Dam Drain flows through the modified dam at the downstream end and into Willow Run Creek. Samples have been collected by others in both Willow Run Creek and Tyler Dam Drain.

The Willow Run Landfill, located downstream along Willow Run Creek, has collected surface water samples between 2013 and 2022 from sampling locations located approximately a half mile downstream from the 84” stormwater sewer discharge point to Tyler Dam Drain. These data are publicly available from EGLE and presented in Table 3. No

samples were collected between January 2017 and July 2021. During that time modifications to Tyler Pond dam were made and Tyler Pond was drawn down.

Prior to 2017 there were sporadic detections of TCE, cDCE, and VC. All detections were measured below EGLE GSI criteria and for TCE and cDCE detections were measured below EGLE Rule 57 Water Quality Human Cancer Values for non-drinking water surface waters. Since 2021, all COCs were non-detect in the sampling data.

The Washtenaw Water Resource Commission and Tetra Tech collected water samples from the discharge of the 84" storm sewer and from Tyler Dam Drain in March 2024. The data was shared with RACER by EGLE, the lab report indicates that there are no detections of VOCs in the samples collected. A summary of VOCs and semi-VOCs data is presented in Table 4.

The analytical results of water discharged from the Site and the surface water in Tyler Dam Drain and Willow Run Creek, illustrate that there is no appreciable impact of the PCE Area plume on downgradient surface water.

4.2 Plume Stability Evaluation

The PCE Area's active groundwater monitoring well network of 21 wells of interest were utilized in this evaluation. These wells were selected because of their CVOC impacts, proximity to CVOC source areas, or locations as sentinel wells for monitoring plume extent/movement. These wells have been sampled regularly on a variable-interval basis, and all but two have a minimum of 7–8 years of groundwater quality data for assessment (CRA-267M has only 6 samples since 2012, and GHD-1209M has only 4 samples since 2022). The locations of these wells are shown on Figure 4. The contaminant status of the wells (i.e., above or below the calculated GSI criterion) are summarized below:

Table 5 Monitoring Locations for Plume Stability Assessment

Monitoring System Role	Well ID	PCE Status (March 2024)	TCE Status (March 2024)	cDCE Status (March 2024)	VC Status (March 2024)
Source Location	GHD-859M	> GSI	< GSI	< GSI	Unclear*
Source Location	GHD-1134M	> GSI	> GSI	> GSI	> GSI
Source Location	GHD-1145M	> GSI	> GSI	> GSI	< GSI
Source Location	GHD-1151M	> GSI	> GSI	> GSI	> GSI
Impacted Location	CRA-106M	> GSI	> GSI	< GSI	> GSI
Impacted Location	CRA-807M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-061M	< GSI	< GSI	< GSI	> GSI
Sentinel Location	GHD-1220M	< GSI	< GSI	< GSI	> GSI
Sentinel Location	GHD-1223M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	GHD-1226M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	GHD-1229M	< GSI	< GSI	< GSI	> GSI
Sentinel Location	CRA-137M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-140M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-267M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-609M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-711I	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-756M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-806M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	CRA-858I	< GSI	< GSI	< GSI	< GSI
Sentinel Location	GHD-1209M	< GSI	< GSI	< GSI	< GSI
Sentinel Location	IG-1	< GSI	< GSI	< GSI	< GSI
Note: * VC has not been detected, but all results have elevated detection limits above the GSI criterion.					

Notes:
Wells denoted in red have at least one 2024 sample result above GSI criteria.
Source Location monitoring wells are those located within source Areas B and C
Impacted Locations are monitoring wells near source locations that are within the extent of the PCE Plume at any point in 2018–2024
Sentinel Locations are monitoring wells near the PCE Plume that help monitor plume extent.

Most of the groundwater sampled in the wells of interest meets the GSI criteria. The main well locations still exceeding criteria are CRA-106M, GHD-1134M, GHD-1145M and GHD-1151M. Additionally, PCE at GHD-859M and VC at CRA-061M, GHD-1220M and GHD-1229M exceed GSI criteria. Currently, downgradient sentinel monitoring locations are below EGLE GSI criteria.

The stability of contaminant concentrations in groundwater samples from the Site's monitoring wells was assessed on an individual-well basis utilizing a statistical trend test. The selected test is the Mann-Kendall (M-K) trend test, which is recommended for the analysis of environmental monitoring data by the United States Environmental Protection Agency (USEPA, 2009) and the United States Geological Survey (USGS, 2020), as well as various authors of environmental statistics textbooks (e.g., Gilbert, 1987; Gibbons, 1994).

The Mann-Kendall trend test is a non-parametric (rank-based) method that evaluates a set of data for a monotonic (unidirectional) trend result. The procedure makes no assumptions regarding the shape of the trend (e.g., linear, log linear), except that the trend is in a single direction (i.e., either consistently upward or downward). In implementing the Mann-Kendall trend test a significance level of 0.05 (i.e., 95 percent confidence) was used, meaning that the false

positive rate (concluding a significant trend when none is present) is no greater than 5 percent. To accommodate the presence of censored data (non-detect results) in data sets, the following approach was used.

– If a given data set contained fewer than 4 detected values no trend testing was performed.
– Otherwise, any non-detect results were considered to be tied (of equal value) and having lower concentrations than any detected values. This assumption was made to prevent any variation in detection limits influencing the Mann-Kendall trend test results.
– The data were also screened for any cases where low-level detections (e.g., J-qualified estimated values) were present below reporting limits resulting in ambiguous comparisons with non-detect results and requiring accommodation on a case-by-case basis (e.g., treating the low detect as a non-detect or excluding non-detect results from the trend test).

All available concentration data between 2004 to 2024 were included in the trend tests. For statistical testing, field duplicate results were averaged prior to statistical calculations. If one field duplicate was a detected value and the other a non-detect, the detected result was conservatively retained to represent a maximum estimate of the analyte concentration.

4.2.1 Intra-Well Stability Assessment Findings

Results of the intra-well Mann-Kendall trend tests performed are provided in Table 6 (following text), and the corresponding data are graphically presented in Appendix D.

A total of 84 data sets were initially considered for trend/stability assessment (21 wells x 4 parameters). Of these data sets 13 contain only non-detect results and therefore were not submitted to trend testing. For 12 of these data sets the reporting limit has been below the corresponding GSI criterion and therefore the groundwater is not considered impacted with respect to the given analyte (PCE, TCE, cDCE or VC) at these wells. However, for VC at GHD-859M all of the analytical data are non-detects with VC reporting limits elevated above the GSI criterion, and therefore no meaningful assessment of VC in groundwater at this location is currently possible. This well, located within Source Area B, has high concentrations of PCE (well above its GSI criterion) which increases the dilution factor of the analytical method, thus increasing the minimum detection limit of all CVOCs.

An additional 18 data sets contain fewer than 4 detected values, below the threshold recommended for conducting trend analyses (see Section 4.2 *Plume Stability Evaluation* above), and therefore were also not subjected to trend analyses. All but one of these data sets currently have concentrations below the corresponding GSI criteria. The exception is VC at GHD-1151M, which has been detected during the last two monitoring events (December 2023 and March 2024), in both cases exceeding the GSI criterion for VC by an order of magnitude, but previously had non-detect results with elevated reporting limits (again likely due to matrix interference with high PCE concentrations in groundwater at this well).

The remaining 53 data sets were suitable for trend analysis and subjected to the Mann-Kendall Test. The breakdown of results for these data sets includes:

– 3 Increasing trends (cDCE and VC at CRA-061M; VC at GHD-1223M)
– 18 Decreasing trends (PCE at 6 wells, TCE at 7 wells, cDCE at 2 wells, and VC at 3 wells)
– 32 data sets exhibiting no statistically-significant trend. Of these, 24 had negative test statistics (suggesting a decreasing tendency) and 8 had positive test statistics (suggesting an increasing tendency).

Of the three data sets exhibiting increasing trends, only VC at CRA-061M has a concentration currently exceeding its GSI criterion (18 µg/L vs. 13 µg/L criterion). For perspective, there are 16 data sets currently exceeding their respective GSI criteria (see Table 5 above) and this is the only one exhibiting an increasing trend, with four having statistically-significant decreasing trends and all but two of the remaining data sets having decreasing tendency (i.e., not statistically significant but having a zero or negative test statistic).

On an intra-well basis, it is clear that stable or decreasing concentrations in groundwater are prevalent for the four COCs at the 21 monitoring wells considered. There are many more significant decreasing trends (and not-significant decreasing tendencies) than increasing, and this is particularly noted considering the data sets where current

concentrations still exceed GSI criteria. This points to the likelihood of decreasing contaminant mass in the groundwater plume, which is assessed in the next section of text below.

4.2.2 Plume Stability Assessment Findings

It is of interest not only to assess stability of COC concentrations in groundwater at individual well locations, but also to investigate characteristics of the PCE plume as a whole over time. To do so, select characteristics of the plume were queried from 3D model (see Section 3.5 *3-Dimensional Model* above) for the years between 2016 and 2024. The characteristics considered are:

i) Plume volume (X-Y-Z)

ii) Plume area (X-Y)

iii) PCE mass within the plume

iv) Center of mass.

For the purposes of generating these model estimates, the plume extents were taken as the space within which the 3D model interprets PCE concentrations exceeding the GSI criterion of 60 µg/L.

Each of the plume characteristics generated are discussed below.

4.2.2.1 PCE Plume Volume

Calculated volume of the PCE plume by year from the 3D model is summarized in the following table.

Table 7 Interpreted Volume of PCE Plume by Year – Modeled plume defined by PCE concentrations above GSI criteria

Year:	2016	2017	2018	2020	2021	2022	2023	2024
PCE plume volume (ft^3):	547,000	600,000	571,000	484,000	451,000	451,000	448,000	373,000
Note: No sampling was conducted in 2019, and therefore plume calculations were not updated for that year.								

Submitting these data to Mann-Kendall test, a statistically-significant decreasing trend is identified (S=-22, P=0.006, or 99.4 percent confidence). To produce an estimate of the rate of change, the slope from the Theil-Sen Trend Line (see Section 17.3.3 of USEPA, 2009) was calculated. The Theil-Sen procedure, like the Mann-Kendall Test, is a non-parametric (rank-based) statistical method, and they are often applied together. The estimated Sen's slope for PCE plume volume is -26,000 ft^3/year, with a 95 percent confidence interval of -37,000 to -14,000. These results indicate that the PCE plume in groundwater is typically shrinking by 14,000 to 37,000 cubic feet per year, which is in the range of approximately a 5 percent volume reduction per year compared to the peak volume estimate in 2017. The estimated PCE plume volume has decreased by 41 percent since 2017.

Since a statistically-significant decreasing trend in PCE plume volume over time was found, additional assessment of the trend was completed utilizing linear regression (a parametric statistical trend model, see Section 17.3.1 of USEPA, 2009). This was performed to visualize confidence bounds on the rate of change and the region of potential observations, as illustrated in the following plot (Figure 7):

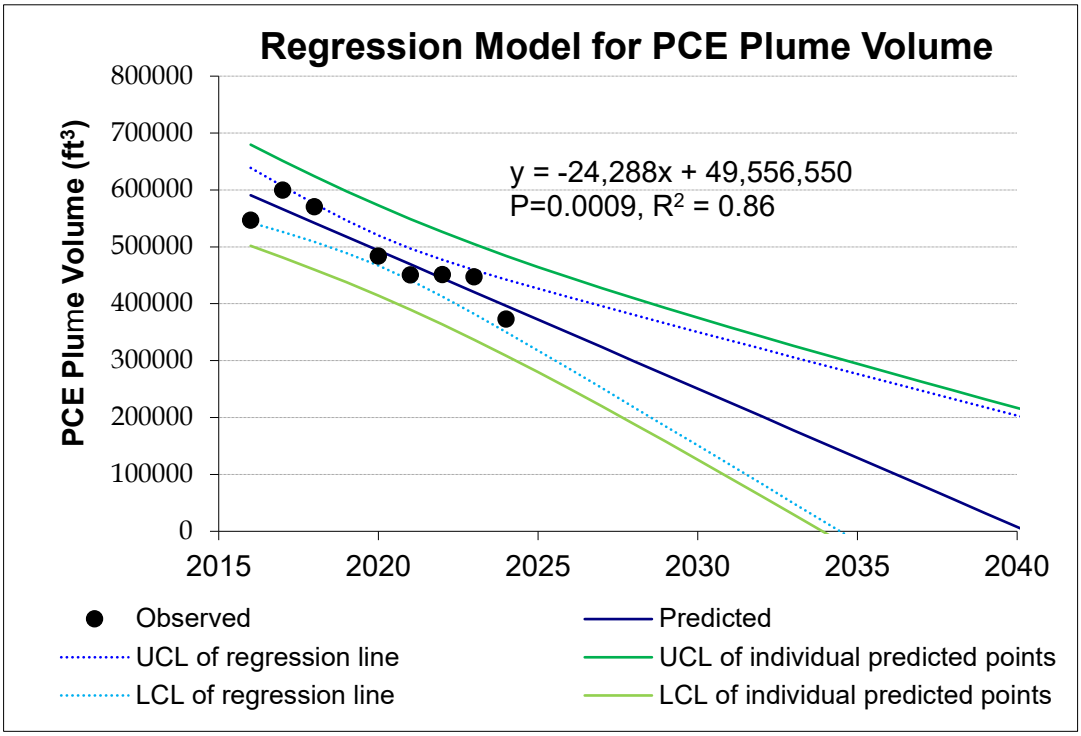

Figure 7: Regression Model for PCE Plume Volume vs. Time

The linear regression model yields a similar slope estimate (-24,000 ft^3/year) to the Sen's slope (-26,000 ft^3/year) presented above. Inspecting the regression model graph, at the current rate of change the plume could be expected to reduce to zero by approximately 2040. However, as evidenced by the uncertainty represented by the lower and upper confidence limits for the regression this date could be as early as 2034, or as late as 2054 (not shown on plot). The upper limit line for the individual points predictions indicates that in 2040 there is 95 percent confidence that the plume volume will be no higher than about 200,000 ft^3.

The assessment of the 3D-modeled PCE plume presented above shows a statistically-significant decrease in PCE plume volume over time between 2016 and 2024. This finding supports current remediation strategies (natural attenuation) at the Site for reducing PCE impacts to groundwater. At current rates, the plume could be reduced to below the GSI criterion by approximately 2040 (with the noted uncertainty in model projections).

4.2.2.2 PCE Plume Area

Calculated area of the PCE plume (projected up to ground surface) by year from the 3D model is summarized in the following table.

Table 8 Interpreted Plan Area of PCE Plume by Year – Modeled plume defined by PCE concentrations above GSI criteria

Year:	2016	2017	2018	2020	2021	2022	2023	2024
PCE plume area (ft^2):	54,600	61,300	61,300	53,900	51,500	51,100	49,000	42,300
Note: No sampling was conducted in 2019, and therefore plume calculations were not updated for that year.								

Submitting these data to Mann-Kendall test, a statistically-significant decreasing trend is identified (S=-22, P=0.006, or 99.4 percent confidence). The estimated Sen's slope for PCE plume areal surface is -2,100 ft^2/year, with a 95 percent confidence interval of -3,100 to -600. These results indicate that the areal extent of the PCE plume in groundwater is typically shrinking by 600 to 3,100 square feet per year, which is in the range of approximately a 3 percent area

reduction per year compared to the peak area estimate in 2017. The estimated PCE Plume Area has decreased by 35 percent since 2017.

Since a statistically-significant decreasing trend in PCE plume surface over time was found, additional assessment of the trend was again completed utilizing linear regression. This was performed to visualize confidence bounds on the rate of change and the region of potential observations, as illustrated in the following plot (Figure 8):

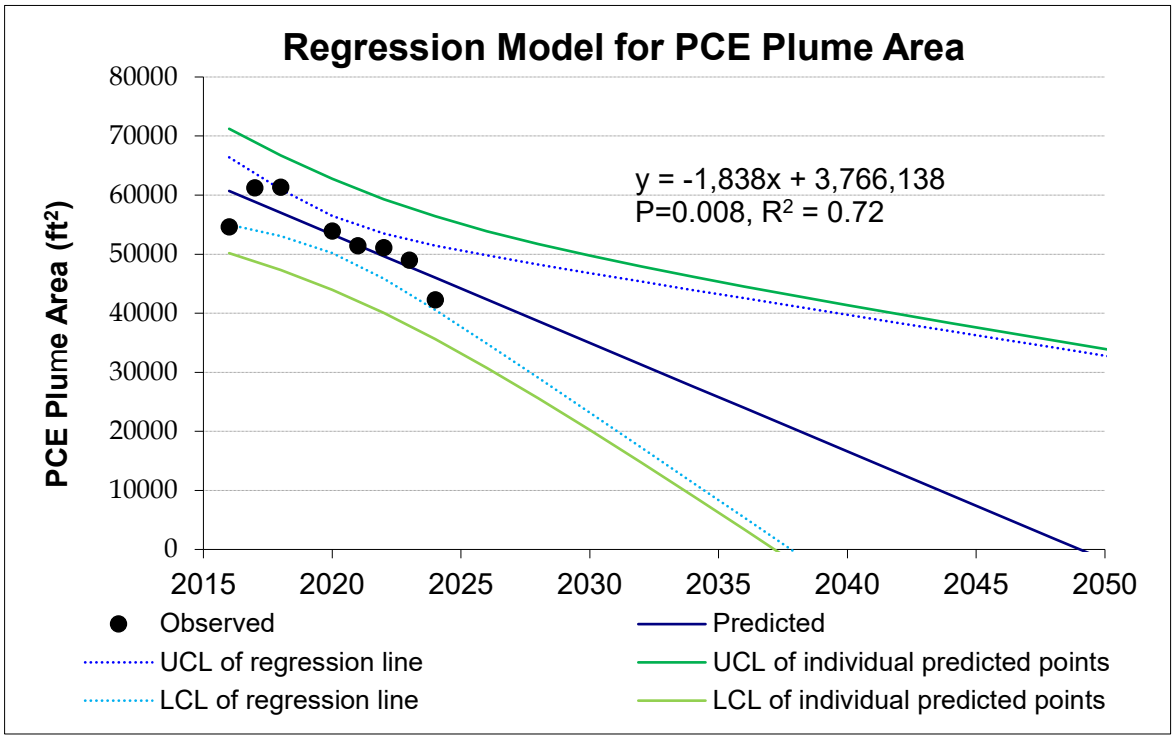

Figure 8: Regression Model for PCE Plume Area vs. Time

The linear regression model yields a slightly lower slope estimate (-1,800 ft^3/year) than the Sen's slope (-2,100 ft^3/year) presented above. Inspecting the regression model graph, at the current rate of change the plume area could be expected to shrink to zero by approximately 2050. The lower and upper confidence limits for the regression are 2037 and 2099 (not shown on plot), respectively. The upper limit line for the individual points predictions indicates that in 2050 there is 95 percent confidence that the plume area will be no greater than about 34,000 ft^2.

As for PCE plume volume above, the assessment of the 3D-modeled PCE plume area shows a statistically-significant decrease in over PCE plume area over time between 2016 and 2024. This finding supports current remediation strategies (natural attenuation) at the Site for reducing PCE impacts to groundwater. At current rates, the plume could be reduced to below the GSI criterion (i.e., a plume area of zero) by approximately 2050 (with the noted uncertainty in model projections).

4.2.2.3 PCE Mass Within Plume

The mass of PCE contained in groundwater within the plume (areas above the GSI criterion) from the 3D model is summarized by year in the following table.

Table 9 Interpreted Mass of PCE Plume by Year – Modeled plume defined by PCE concentrations above GSI criteria

Year:	2016	2017	2018	2020	2021	2022	2023	2024
PCE mass (kg):	12.94	17.64	12.06	10.97	8.78	6.75	12.09	5.82
Note: No sampling was conducted in 2019, and therefore mass calculations were not updated for that year.								

Testing for trend via the Mann-Kendall Test, a statistically-significant decreasing trend is identified (S=-18, P=0.032, or 96.8 percent confidence). The estimated Sen's slope for PCE mass within plume is -1.0 kg/year, with a 95 percent confidence interval of -2.2 to -0.4. These results indicate that the estimated mass of PCE within the groundwater plume typically shrinking by 0.4 to 2.2 kg per year, which is in the range of approximately a 5 percent reduction per year compared to the peak mass estimate in 2017. The estimated mass of PCE within the groundwater plume has decreased by 91 percent since 2017.

Since a statistically-significant decreasing trend in PCE plume surface over time was found, additional assessment of the trend was again completed utilizing linear regression. This was performed to visualize confidence bounds on the rate of change and the region of potential observations, as illustrated in the following plot (Figure 9):

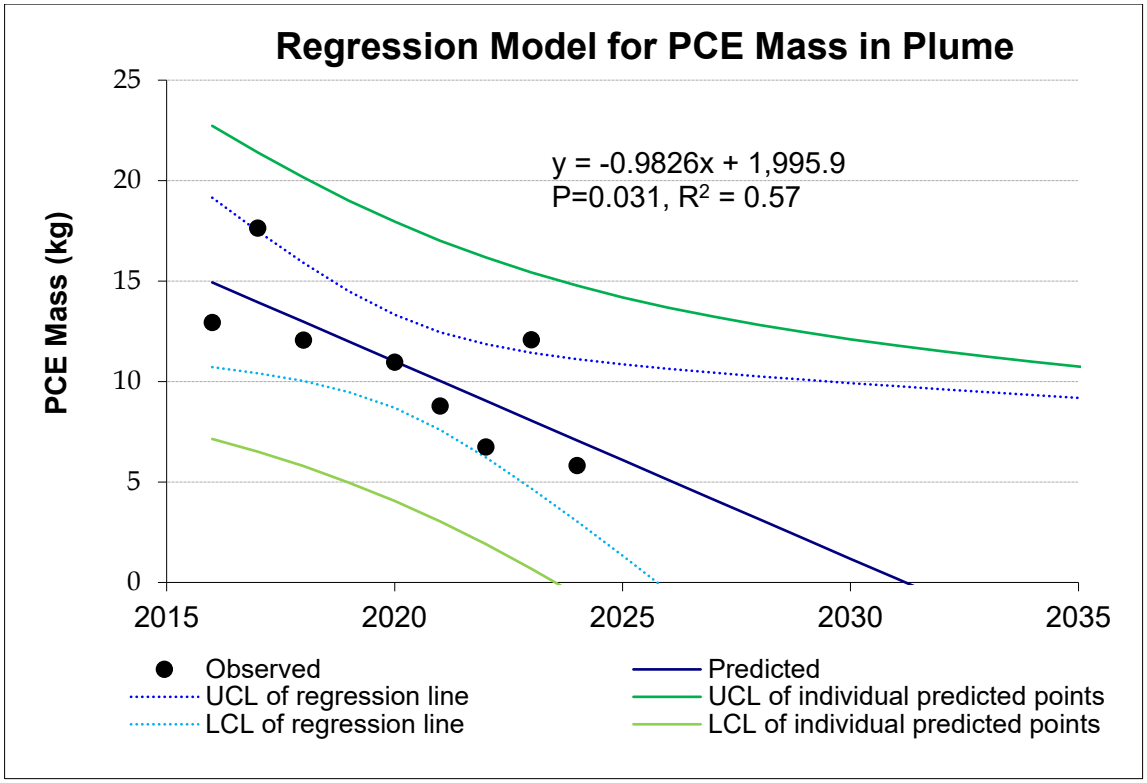

Figure 9: Regression Model for Mass of PCE in Plume vs. Time

The linear regression model yields a similar slope estimate (-0.98 kg/year) to the Sen's slope (-1.0 kg/year) presented above. Inspecting the regression model graph, at the current rate of change the mass of PCE in the plume could be expected to reduce to zero by approximately 2032. However, the lower and upper confidence limits for the regression indicate this could be as early as 2036 or as late as 2126 (not shown on plot). The variability in the regression for PCE mass is proportionately much higher than for plume volume and plume area (see above), resulting in the 95 percent upper confidence bound on the regression line (upper blue dotted line in Figure 9) being higher than the current value beyond the projected zero mass date of 2032.

The assessment of the 3D-modeled mass of PCE within the groundwater plume presented above shows a statistically-significant decrease over time between 2016 and 2024, supporting the effectiveness of current remediation strategies (natural attenuation) at the Site for reducing PCE impacts to groundwater. At current rates, the mass of PCE within the plume above the GSI criterion could be reduced to zero by approximately 2032 (with the noted uncertainty in model projections).

4.2.2.4 Location of Center of PCE Mass

The center of mass (centroid) of the interpreted PCE plume from the 3D model was determined for each year from 2016 through 2024 (excluding 2019, during which no samples were collected). The X-Y-Z coordinates were extracted and used to calculate the change in centroid distance year-to-year. Figure 10 provides a plan-view (top down) representation of the location of the PCE plume centroid by year, noting that variation in the Z-coordinate (subsurface depth) has been minimal over this timeframe (i.e., 0.1 feet or less each year). For all years described, the centroid has remained in Area B.

The centroid of the PCE plume has been slowly moving to the northeast but varies year to year. For example, in 2018 the centroid moved southwest between the 2017 and 2016 locations, and a similar pattern occurred for 2024. The distance between the centroid locations by year is summarized below.

Table 10 Change in PCE Plume Centroid by Year

Year:	2017	2018	2020	2021	2022	2023	2024
Distance & direction vs. previous year:	23.4 ft (NE)	8.2 ft (SW)	20.0 ft (NE)	5.4 ft (N)	1.5 ft (SE)	5.9 ft (NNE)	7.6 ft (SSW)

The interpreted groundwater flow direction in this area near the plume centroid (close to wells GHD-1151M and GHD-1134M), as presented in previous monitoring reports, is generally southward, with variable eastward components. As such, the observed change in PCE plume centroid (predominantly in a northeast direction) does not appear to follow groundwater migration. Upon further inspection of the 3D plume model over time, it is apparent that much of the plume mass is centered in two “lobes”:

A) GHD-1151M / GHD-1134M (Area B), with PCE concentrations between 10,000–100,000 µg/L

B) GHD-1145M / GHD-859M (Area C), with PCE concentrations between 1,000–10,000 µg/L

As presented above (Section 4.2.1 *Intra-Wells Stability Assessment Findings* and Table 6), Mann-Kendall trend test results indicate that PCE concentrations in groundwater at both GHD-1145M and GHD-859M (Area C) have been significantly decreasing over time since 2016), but at GHD-1151M and GHD-1134M (Area B) no significant trends over time are yet apparent. Given these observations it is likely that the observed movement of the PCE plume centroid is due to the plume shrinking (attenuating) in area C and thus the calculated mass centroid has moved closer to Area B. Furthermore, the presence of DNAPL in monitoring well GHD-1151M significantly influences the mass of dissolved phase PCE, thus shifting the centroid to Area B. Therefore, plume migration does not appear to be a major factor in changing plume geometry, and rather plume attenuation processes appear to have been more influential over the 2016–2024 period. That is, the groundwater PCE plume does not appear to be migrating with groundwater flow but rather is gradually attenuating over time in the primary areas of impact.

4.2.2.5 Conclusions of Plume Stability Assessment

The evaluations described above considering the 2016–2024 groundwater CVOC concentration data yield the following main conclusions:

i) Impacted groundwater above GSI criteria is currently present in four interpreted source locations wells (GHD-859M, GHD-1134M, GHD-1145M and GHD-1151M). Outside of the source area impacts are limited to CRA-106M to the east (PCE, TCE and VC exceeding criteria), and to lesser extents CRA-061M (west – upgradient), GHD-1220M and GHD-1229M (south – downgradient) with VC exceeding its GSI criterion only.

ii) Intra-well trend analyses identified a predominance of decreasing and stable conditions of CVOC concentrations over time in groundwater at wells in and around the PCE plume area. Many more decreasing trends are evident than increasing trends. The three data sets with increasing trends present (out of 84 data sets total) are for PCE degradation products (cDCE and VC), of which two are at upgradient well GHD-061M and the other is at near-downgradient well GHD-1223M with VC increasing

2021–2023 but decreasing for the last two sampling events and currently below the GSI criterion (see corresponding trend plot in Appendix D).

iii) Trend analyses of PCE plume parameters (plume volume, plume area and total PCE mass within plume) found statistically-significant (with greater than 95 percent confidence) decreasing trends which document the plume has been shrinking between 2016 and 2024. Linear regression models fit to these data sets indicate that the PCE plume could achieve remediation objectives (below EGLE GSI criteria) between 2032 and 2050, acknowledging that there is fair variability in the confidence bounds on these time estimates.

iv) Assessment of the PCE plume center of mass (centroid) location over the 2016–2024 period indicates that the plume location appears mainly stable (i.e., not migrating significantly with groundwater flow) but that noted decreases in the plume extent/size is moving the plume centroid towards the two Area B wells with highest PCE concentrations (GHD-1134M and GHD-1151M).

Overall, the assessment of groundwater plume stability over the 2016–2024 period indicates that PCE impacts have decreased over time, reflected in shrinking plume extents (volume, area and mass) with no notable downgradient migration following observed groundwater flow patterns.

4.3 Natural Attenuation

Natural attenuation is a well-established practice for the remediation of CVOCs and other environmental contaminants. Natural attenuation leverages biological, chemical, and physical processes to achieve site-specific cleanup objectives within a reasonable timeframe and cost compared to other remediation approaches. Natural attenuation processes work to decrease the mass, volume, concentration, mobility, or toxicity of contaminants in the environment, thereby decreasing the risk to human health and the environment. In-situ natural attenuation processes include sorption, volatilization, dispersion, dilution, biodegradation, biological or chemical stabilization, transformation, or destruction of contaminants. The following discussion outlines the biodegradation and physical attenuation processes that support intra-well stability and plume stabilization in Section 4.2 *Plume Stability Evaluation.*

4.3.1 Biodegradation

Biodegradation of contaminants is the primary process of natural attenuation as it directly reduces the mass of contaminants in the environment. In the case of chlorinated ethenes, biodegradation occurs primarily via reductive dechlorination, whereby microbial communities in the subsurface consume chlorinated ethenes as terminal electron acceptors under chemically reducing conditions. Reductive dechlorination of chlorinated ethenes occurs sequentially; PCE degrades to TCE degrades to cDCE degrades to VC degrades to ethene. Chlorinated ethenes may also biodegrade via oxidative co-metabolism by which oxidative metabolism of carbon sources produces metabolic enzymes that inadvertently oxidize chlorinated ethenes. Though oxidative co-metabolism may degrade TCE, cDCE, and VC, PCE is only biodegraded via reductive dechlorination.

Reductive dechlorination of PCE and TCE is evidenced by reductions in total mass or decreased concentration of PCE and TCE and increases in the mass or concentration of PCE reduction products cDCE and VC. As discussed in Section 4.2.1 *Intra-Well Stability Assessment Findings*, Mann Kendall and plume stability analyses show that PCE concentrations within the PCE area, particularly in Area C, have decreased consistently since 2016. Statistical analyses also illustrate that total PCE mass, PCE plume volume, and PCE plume surface area have decreased in the same time period. These trends indicate PCE on Site has attenuated appreciably since 2016. Plots of COC concentration and groundwater surface elevation over time are provided in Appendix E.

Despite consistent PCE attenuation, formation of reduction products cDCE and VC is limited to two locations: monitoring well CRA-061M and monitoring well GHD-1223M. Monitoring well CRA-061M is located on the west edge of the PCE Area. VC detections in monitoring well CRA-061M exceeded EGLE GSI criteria in 2023 and 2024. Monitoring well GHD-1223M is in the center of the PCE Area with no CVOC groundwater impacts above EGLE GSI criteria. A lack of cDCE and VC accumulation on Site may be a function of reduction products undergoing reductive

dechlorination in tandem with PCE, thus preventing cDCE or VC increasing as PCE biodegrades. Additionally, increased concentrations of ethene are correlated with decreasing PCE concentrations, supporting the contention that PCE degrades via reductive dechlorination completely to ethene rapidly enough that cDCE and VC do not accumulate.

Reductive dechlorination is a chemically reductive process and occurs under reducing conditions. Geochemical indicators (dissolved oxygen (DO), oxidation-reduction potential (ORP), nitrate, sulfate, reduced metal ions iron (III) and manganese (II)) provide evidence of the oxidation-reduction conditions in the subsurface and the likelihood of a reducing environment. Field measurements and analytical results of geochemical indicators are presented in Table 11. Plots of dissolved oxygen and oxidation-reduction potential over time are presented in Appendix F.

DO and ORP measurements within the PCE Area consistently show subsurface reducing conditions that would facilitate biodegradation of PCE via reductive dechlorination. The average DO concentration within the PCE Area is 0.818 mg/L, which is less than 5.0 mg/L threshold reducing condition threshold (Aziz, 2002). Forty percent of PCE Area monitoring locations have an average DO concentration < 0.5 mg/L, at which reductive dechlorination is likely, and eighty percent of monitoring locations have an average DO concentration < 1.0 mg/L. The average ORP within the PCE Area is -44 mV, less than the 50 mV reducing conditions threshold (Aziz, 2002). Ninety five percent of monitoring locations have an average ORP < 50 mV and sixty percent of monitoring locations have an average ORP < -50 mV. Both parameters are sufficiently anoxic/reducing for reductive dechlorination to occur (Aziz, 2002).

Secondary geochemical indicators iron (II), manganese (II) and nitrate have been detected in PCE Area monitoring locations at concentrations that indicate reducing conditions are possible or likely. Iron and manganese have been measured > 1 mg/L and > 0.5 mg/L, respectively. Both metal iron detections indicate reducing conditions are possible. Nitrate and sulfate can compete with chlorinated ethenes as terminal electron acceptors in the anaerobic microbial growth process that facilitates reductive dechlorination. Nitrate is the preferred electron acceptor compared to sulfate. The average nitrate concentrations in the PCE Area is equal 0.36 mg/L, below the 0.5 mg/L reductive dechlorination threshold (Aziz, 2002). Note that nitrate average is calculated after removal of a single outlier that is 22 standard deviations greater than the average concentration. Nitrate concentrations indicate low competition for chlorinated ethenes to act as terminal electron acceptors.

Geochemical indicator DO, ORP, nitrate, and reduced metal ions show that subsurface conditions are sufficient for reductive dechlorination of chlorinate ethenes.

4.3.2 Physical Processes

Physical processes such as dilution, dispersion, sorption, and volatilization may also contribute to PCE attenuation in the PCE Area. As discussed in Section 3.3.1 *Groundwater Flow Monitoring*, groundwater levels have increased as a result of demolition and redevelopment activities across the Site. Consistently higher groundwater levels result in a greater total volume of groundwater in the saturated zone, which would cause some dilution of impacted groundwater in the PCE Area. Soil delineation investigations discussed in Section 3.2.1 *Soil Delineation* and visualized in the 3D CSM, revealed that the greatest CVOC impacts exist in the deep soils of the shallow groundwater zone, approximately 10–12 feet bgs. Rising groundwater elevations may provide a transport pathway for aqueous phase PCE to sorb to less impacted soils higher in the subsurface, in effect smearing the contamination vertically in the subsurface. The extent and contribution of these physical attenuation processes is not quantified in this Report. However, they offer a probable explanation of the observed and consistent attenuation of PCE.

5. Conclusion

The PCE plume stability analysis indicates that the extent of PCE contamination in groundwater is decreasing. Monitoring well locations within the PCE plume show stability, with concentrations of CVOCs overall decreasing since 2016. The analysis shows that the plume plan area, volume, and total mass have decreased appreciably over the monitoring period. Linear projections suggest that the PCE plume will attenuate to a concentration below the current

EGLE GSI criteria by 2032–2050. A majority of PCE total mass in the PCE plume is located at monitoring location GHD-1151M, which contains DNAPL. Ongoing DNAPL recovery may decrease the projected PCE mass attenuation timeframe and narrow the confidence interval of the PCE mass regression. The PCE plume is not migrating away from the source locations, which remain stationary. Additionally, it is extremely unlikely for CVOC-impacted groundwater to interface with downgradient surface waters, and data from downgradient surface waters show no CVOC impacts at all. Engineering controls (bulkheaded utilities and millings cover) prevent the migration of impacted groundwater off Site, minimizing the risk to human health and the environment. Institutional controls restrict the use of CVOC impacted groundwater and stipulate the mitigation of any potential risk for future construction projects.

5.1 Recommendations

The multiple lines of evidence detailed in this Report illustrate that the PCE plume, and related COC plumes, present minimal risk to human health or the environment. Projections based on eight years of data indicate that the PCE plume will attenuate to below EGLE GSI criteria in approximately 30 years. The recommended action for the PCE Area includes groundwater quality monitoring and groundwater level gauging of the PCE Area once every three years for ten years with reporting of results following each monitoring event. This monitoring will provide information on the extent of plume attenuation over the long-term. The recommended groundwater quality monitoring network for future PCE Area monitoring consist of 16 wells, including source area wells, impacted wells, and downgradient/upgradient sentinel wells. The recommended groundwater level gauging network for future PCE Area monitoring include 34 wells within and outside the PCE Area. Recommended monitoring locations are presented on Figure 11 and listed in Table 12. The monitoring network may change with ongoing redevelopment. Any such changes will be communicated to EGLE.

6. References

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Tables

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		EGLE (1)	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-106M	CRA-106M	CRA-106M	CRA-106M	CRA-106M	CRA-106M
Sample Identification			GW-17358-080318-DR-067	GW-11223073-060421-DA-053	GW-11223073-060122-AC-035	GW-12602792-051223-LK-013	GW-12602792-231212-BB-017	GW-12602792-240306-LK-012	GW-17358-102020-DR-002	GW-11223073-060321-DA-043	GW-11223073-060321-DA-044	GW-11223073-053122-AC-017	GW-11223073-101322-MR-015	GW-12602792-051223-CM-018
Sample Date		Groundwater Surface Water Interface (2)	08/03/2018	06/04/2021	06/01/2022	05/12/2023	12/12/2023	03/06/2024	10/20/2020	06/03/2021	06/03/2021	05/31/2022	10/13/2022	05/12/2023
Sample Type											Duplicate			
Parameters	**Units**													
Gas														
Ethane	ug/L		1.0 U	--	1.4	--	1.0 U	1.3	--	--	--	22	--	--
Ethene	ug/L		1.0 U	--	0.29 J	--	0.26 J	0.48 J	--	--	--	16	--	--
Methane	ug/L		5.4	--	3300	--	410	800	--	--	--	7500	--	--
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	ug/L	89	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,1,2,2-Tetrachloroethane	ug/L	78	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,1,2-Trichloroethane	ug/L	330	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,1-Dichloroethane	ug/L	740	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,1-Dichloroethene	ug/L	130	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,2,4-Trichlorobenzene	ug/L	99	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ID	1.0 U	1 U	2.0 U	2.0 U	--	--	200 U	200 U	330 U	130 U	--	100 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.7	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,2-Dichlorobenzene	ug/L	13	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,2-Dichloroethane	ug/L	360	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,2-Dichloropropane	ug/L	230	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,3-Dichlorobenzene	ug/L	28	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
1,4-Dichlorobenzene	ug/L	17	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	10 U	10 U	10 U	10 U	--	--	2000 U	2000 U	3300 U	630 U	--	500 U
2-Hexanone	ug/L	ID	10 U	10 U	10 U	10 U	--	--	2000 U	2000 U	3300 U	630 U	--	500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ID	10 U	10 U	10 U	10 U	--	--	2000 U	2000 U	3300 U	630 U	--	500 U
Acetone	ug/L	1700	10 U	29	10 U	10 U	--	--	2000 U	2000 U	3300 U	630 U	--	500 U
Benzene	ug/L	200	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	100 J	63 U	--	50 U
Bromodichloromethane	ug/L	ID	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Bromoform	ug/L	ID	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Bromomethane (Methyl bromide)	ug/L	5	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Carbon disulfide	ug/L	ID	5.0 U	5 U	1.0 U	1.0 U	--	--	1000 U	1000 U	1700 U	63 U	--	50 U
Carbon tetrachloride	ug/L	38	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Chlorobenzene	ug/L	25	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Chloroethane	ug/L	1100	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Chloroform (Trichloromethane)	ug/L	350	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Chloromethane (Methyl chloride)	ug/L	ID	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
cis-1,2-Dichloroethene	ug/L	620	1.0 U	1 U	1.0	1.7	2.2	4.8	**1400**	**1100**	530	**710**	--	**870**
cis-1,3-Dichloropropene	ug/L		1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Cyclohexane	ug/L		1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Dibromochloromethane	ug/L	ID	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Dichlorodifluoromethane (CFC-12)	ug/L	ID	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Ethylbenzene	ug/L	18	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Isopropyl benzene	ug/L	28	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
m&p-Xylenes	ug/L		--	2 U	--	--	--	--	--	400 U	--	--	--	--
Methyl acetate	ug/L		10 U	1 U	10 U	10 U	--	--	2000 U	200 U	3300 U	630 U	--	500 U
Methyl cyclohexane	ug/L		1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Methyl tert butyl ether (MTBE)	ug/L	7100	1.0 U	5 U	1.0 U	1.0 U	--	--	200 U	1000 U	330 U	63 U	--	50 U
Methylene chloride	ug/L	1500	5.0 U	5 U	5.0 U	5.0 U	--	--	1000 U	1000 U	1700 U	310 U	--	250 U
o-Xylene	ug/L	49	--	1 U	--	--	--	--	--	200 U	--	--	--	--
Styrene	ug/L	80	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Tetrachloroethene	ug/L	60	1.0 U	1 U	1.6	1.2	1.0 U	1.0 U	**6900**	**5800**	**6400**	**2800**	--	**1800**
Toluene	ug/L	270	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
trans-1,2-Dichloroethene	ug/L	1500	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
trans-1,3-Dichloropropene	ug/L		1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Trichloroethene	ug/L	200	1.2	1 U	0.98 J	2.5	1.0 U	1.8	**1400**	**1400**	**860**	**610**	--	**250**
Trichlorofluoromethane (CFC-11)	ug/L		1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U
Trifluorotrichloroethane (CFC-113)	ug/L	32	1.0 U	1 U	1.0 U	1.0 U	--	--	200 U	200 U	330 U	63 U	--	50 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		EGLE (1)	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-106M	CRA-106M	CRA-106M	CRA-106M	CRA-106M	CRA-106M
Sample Identification			GW-17358-080318-DR-067	GW-11223073-060421-DA-053	GW-11223073-060122-AC-035	GW-12602792-051223-LK-013	GW-12602792-231212-BB-017	GW-12602792-240306-LK-012	GW-17358-102020-DR-002	GW-11223073-060321-DA-043	GW-11223073-060321-DA-044	GW-11223073-053122-AC-017	GW-11223073-101322-MR-015	GW-12602792-051223-CM-018
Sample Date		Groundwater Surface Water Interface (2)	08/03/2018	06/04/2021	06/01/2022	05/12/2023	12/12/2023	03/06/2024	10/20/2020	06/03/2021	06/03/2021	05/31/2022	10/13/2022	05/12/2023
Sample Type											Duplicate			
Parameters	**Units**													
Vinyl chloride	ug/L	13	1.0 U	6	2.5	**24**	**28**	**18**	**140 J**	200 U	330 U	**100**	--	**51**
Xylenes (total)	ug/L	49	2.0 U	--	2.0 U	2.0 U	--	--	400 U	--	670 U	130 U	--	100 U
General Chemistry														
Alkalinity, bicarbonate	ug/L		400000	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L		5000 U	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L		--	--	310000	--	330000	370000	--	--	--	340000	--	--
Nitrate (as N)	ug/L	ID	1500 J	--	500 U	--	1000 U	500 U	--	--	--	100 U	--	--
Oil and grease (HEM), total	ug/L		--	--	--	--	--	--	--	--	--	--	1800 J	--
Orthophosphate	ug/L		--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	EE	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	ug/L		190000	--	65000	--	170000	47000	--	--	--	21000	--	--
Total organic carbon (TOC)	ug/L		--	--	11000	--	--	--	--	--	--	25000	--	--
Field Parameters		c												
Conductivity, field	mS/cm		1.62	2.21	6.187	--	--	--	--	0.98	0.98	1.108	1.099	--
Conductivity, field	uS/cm		--	--	--	4439	1600	1120	--	--	--	--	--	834
Dissolved oxygen (DO), field	ug/L	EE	510	140	570	200	9700	330	--	610	610	520	1830	0
Flow rate	mL/min		--	--	--	--	100	150	--	--	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts		-17	-122.4	-247	-111	-25	-97	--	-28.6	-28.6	-228.8	-56.8	-127
pH, field	s.u.	6.5-9.0	7.53	7.12	7.24	7.55	7.68	6.93	--	7.02	7.02	7.09	7.01	7.28
Temperature, sample	Deg C		22.56	14.28	16.6	14.24	10.11	9.17	--	16.2	16.2	19.3	19.5	19.67
Turbidity, field	NTU		4.8	1.06	11.4	3.53	39.0	2.56	--	4.91	4.91	4.45	1.72	1.76
Volume purged	gal		--	--	--	--	2.12	0.38	--	--	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-106M	CRA-106M	CRA-106M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-140M	CRA-140M
Sample Identification		GW-12602792-051223-CM-019	GW-12602792-231211-BB-004	GW-12602792-240305-LK-003	GW-17358-051420-DR-005	GW-17358-102120-DR-004	GW-11223073-060421-DA-054	GW-11223073-060122-AC-036	GW-12602792-051123-LK-009	GW-12602792-231212-BB-020	GW-12602792-240306-LK-013	GW-17358-121719-DA-007	GW-11223073-060421-DA-055
Sample Date		05/12/2023	12/11/2023	03/05/2024	05/14/2020	10/21/2020	06/04/2021	06/01/2022	05/11/2023	12/12/2023	03/06/2024	12/17/2019	06/04/2021
Sample Type		Duplicate											
Parameters	**Units**												
Gas													
Ethane	ug/L	--	18	22	--	--	--	4.4	--	7.9	5.2	--	--
Ethene	ug/L	--	5.1	6.9	--	--	--	1.0 U	--	0.42 J	0.18 J	--	--
Methane	ug/L	--	4700	6100	--	--	--	2900	--	13000	10000	--	--
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,1,2,2-Tetrachloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,1,2-Trichloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,1-Dichloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,1-Dichloroethene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,2,4-Trichlorobenzene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	100 U	--	--	1.0 U	1.3 U	1 U	3.1 U	2.0 U	--	--	--	1 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,2-Dichlorobenzene	ug/L	50 U	--	--	0.37 J	0.81 J	1 U	1.5 U	1.0 U	--	--	--	1 U
1,2-Dichloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,2-Dichloropropane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,3-Dichlorobenzene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
1,4-Dichlorobenzene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	500 U	--	--	10 U	2.2 J	10 U	1.9 J	10 U	--	--	--	10 U
2-Hexanone	ug/L	500 U	--	--	10 U	13 U	10 U	15 U	10 U	--	--	--	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	500 U	--	--	10 U	13 U	10 U	15 U	10 U	--	--	--	10 U
Acetone	ug/L	500 U	--	--	10 U	30	54 U	15 U	10 U	--	--	--	10 U
Benzene	ug/L	50 U	--	--	31	44	35	49	11	--	--	--	1 U
Bromodichloromethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Bromoform	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Bromomethane (Methyl bromide)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Carbon disulfide	ug/L	50 U	--	--	5.0 U	6.3 U	5 U	1.5 U	1.0 U	--	--	--	5 U
Carbon tetrachloride	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Chlorobenzene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Chloroethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Chloroform (Trichloromethane)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Chloromethane (Methyl chloride)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
cis-1,2-Dichloroethene	ug/L	**880**	**870**	24	1.0 U	1.3 U	1 U	1.5 U	1.0 U	1.0 U	1.0 U	--	1 U
cis-1,3-Dichloropropene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Cyclohexane	ug/L	50 U	--	--	17	23	12	11	2.9	--	--	--	1 U
Dibromochloromethane	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Dichlorodifluoromethane (CFC-12)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Ethylbenzene	ug/L	50 U	--	--	0.27 J	0.59 J	1 U	1.5 U	1.0 U	--	--	--	1 U
Isopropyl benzene	ug/L	50 U	--	--	5.3	11	4	4.0	0.96 J	--	--	--	1 U
m&p-Xylenes	ug/L	--	--	--	--	--	2 U	--	--	--	--	--	2 U
Methyl acetate	ug/L	500 U	--	--	10 U	13 U	1 U	15 U	10 U	--	--	--	1 U
Methyl cyclohexane	ug/L	50 U	--	--	5.6	6.9	5	3.3	0.66 J	--	--	--	1 U
Methyl tert butyl ether (MTBE)	ug/L	50 U	--	--	1.1	2.3	5 U	1.4 J	1.0 U	--	--	--	5 U
Methylene chloride	ug/L	250 U	--	--	5.0 U	6.3 U	5 U	7.7 U	5.0 U	--	--	--	5 U
o-Xylene	ug/L	--	--	--	--	--	1 U	--	--	--	--	--	1 U
Styrene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Tetrachloroethene	ug/L	**1600**	**1000**	**1100**	1.0 U	0.28 J	1 U	1.5 U	1.0 U	1.0 U	1.0 U	--	1 U
Toluene	ug/L	50 U	--	--	0.95 J	2.0	1 U	1.0 J	1.0 U	--	--	--	1 U
trans-1,2-Dichloroethene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
trans-1,3-Dichloropropene	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Trichloroethene	ug/L	**240**	**290**	**390**	1.0 U	1.3 U	1 U	1.5 U	1.0 U	1.0 U	1.0 U	--	1 U
Trichlorofluoromethane (CFC-11)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U
Trifluorotrichloroethane (CFC-113)	ug/L	50 U	--	--	1.0 U	1.3 U	1 U	1.5 U	1.0 U	--	--	--	1 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-106M	CRA-106M	CRA-106M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-140M	CRA-140M
Sample Identification		GW-12602792-051223-CM-019	GW-12602792-231211-BB-004	GW-12602792-240305-LK-003	GW-17358-051420-DR-005	GW-17358-102120-DR-004	GW-11223073-060421-DA-054	GW-11223073-060122-AC-036	GW-12602792-051123-LK-009	GW-12602792-231212-BB-020	GW-12602792-240306-LK-013	GW-17358-121719-DA-007	GW-11223073-060421-DA-055
Sample Date		05/12/2023	12/11/2023	03/05/2024	05/14/2020	10/21/2020	06/04/2021	06/01/2022	05/11/2023	12/12/2023	03/06/2024	12/17/2019	06/04/2021
Sample Type		Duplicate											
Parameters	**Units**												
Vinyl chloride	ug/L	**44 J**	**84**	**210**	1.0 U	1.3 U	1 U	1.5 U	1.0 U	1.0 U	1.0 U	--	1 U
Xylenes (total)	ug/L	100 U	--	--	2.3	5.3	--	2.0 J	2.0 U	--	--	--	--
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	330000	360000	--	--	--	270000	--	450000	410000	--	--
Nitrate (as N)	ug/L	--	100 U	500 U	--	--	--	100 U	--	500 U	100 U	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	100 U	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	13	--	--	--	--	--	--	--	--
Sulfate	ug/L	--	6600	8600	--	--	--	2800	--	410 J	3600	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--	13000	--	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	--	--	--	0.911	--	0.65	0.75	--	--	--	1.79	1.7
Conductivity, field	uS/cm	834	1330	949	--	--	--	--	1190	1220	962	--	--
Dissolved oxygen (DO), field	ug/L	0	0	660	150	--	10	360	300	970	250	140	420
Flow rate	mL/min	--	100	100	--	--	--	--	--	100	100	--	--
Oxidation reduction potential (ORP), field	millivolts	-127	-70	-116	-244	--	-133.7	-13.4	-120	-84	-102	143.6	-31.2
pH, field	s.u.	7.28	**5.95**	7.20	7.6	--	6.95	7.6	6.92	7.32	6.99	7.13	6.86
Temperature, sample	Deg C	19.67	9.22	13.26	10.15	--	16.92	15.8	14.43	10.84	9.07	9.91	17.61
Turbidity, field	NTU	1.76	5.37	3.62	0.71	--	1.01	1.26	1.52	7.4	4.58	0.49	77.42
Volume purged	gal	--	0.35	0.89	--	--	--	--	--	1.07	0.64	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-140M	CRA-140M	CRA-140M	CRA-140M	CRA-267M	CRA-267M	CRA-267M	CRA-267M	CRA-267M	CRA-609M	CRA-609M	CRA-609M
Sample Identification		GW-11223073-060122-AC-037	GW-12602792-051223-CM-016	GW-12602792-231211-BB-001	GW-12602792-240306-LK-010	GW-17358-080318-DR-064	GW-17358-121719-DA-008	GW-12602792-091923-LK-001	GW-12602792-231211-BB-002	GW-12602792-240305-BB-009	GW-17358-121719-DA-009	GW-17358-051420-DR-004	GW-17358-102120-DR-003
Sample Date		06/01/2022	05/12/2023	12/11/2023	03/06/2024	08/03/2018	12/17/2019	09/19/2023	12/11/2023	03/05/2024	12/17/2019	05/14/2020	10/21/2020
Sample Type													
Parameters	**Units**												
Gas													
Ethane	ug/L	0.40 J	--	1.0 U	1.0 U	14	--	--	12	10	--	--	--
Ethene	ug/L	1.0 U	--	1.0 U	1.0 U	27	--	--	1.0 U	0.71 J	--	--	--
Methane	ug/L	38	--	14	34	4200	--	--	8100	8800	--	--	--
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	--	6.9 J	--	1.0 U	--	--	--	0.95 J	1.3
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	--	19	--	3.3	--	--	--	0.22 J	0.27 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	2.0 U	--	--	13 U	--	2.0 U	--	--	--	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	--	--	130 U	--	10 U	--	--	--	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	--	--	130 U	--	10 U	--	--	--	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	--	--	5.8 J	--	10 U	--	--	--	10 U	10 U
Acetone	ug/L	10 U	10 U	--	--	1400 J	--	10 U	--	--	--	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	--	--	63 U	--	1.0 U	--	--	--	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.5	--	--	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.53 J	0.58 J	1.0 U	0.87 J	420	--	2.6	0.74 J	0.60 J	--	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
m&p-Xylenes	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	10 U	10 U	--	--	130 U	--	10 U	--	--	--	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	--	--	63 U	--	5.0 U	--	--	--	5.0 U	5.0 U
o-Xylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.52 J	0.96 J	1.0 U	1.0 U	6.0 J	--	1.1 B	1.0 U	0.83 J	--	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	--	19	--	1.0 U	--	--	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Trichloroethene	ug/L	0.85 J	1.1	0.93 J	1.0	13 U	--	2.4	0.71 J	1.8	--	4.6	6.4
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	--	13 U	--	1.0 U	--	--	--	1.0 U	1.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-140M	CRA-140M	CRA-140M	CRA-140M	CRA-267M	CRA-267M	CRA-267M	CRA-267M	CRA-267M	CRA-609M	CRA-609M	CRA-609M
Sample Identification		GW-11223073-060122-AC-037	GW-12602792-051223-CM-016	GW-12602792-231211-BB-001	GW-12602792-240306-LK-010	GW-17358-080318-DR-064	GW-17358-121719-DA-008	GW-12602792-091923-LK-001	GW-12602792-231211-BB-002	GW-12602792-240305-BB-009	GW-17358-121719-DA-009	GW-17358-051420-DR-004	GW-17358-102120-DR-003
Sample Date		06/01/2022	05/12/2023	12/11/2023	03/06/2024	08/03/2018	12/17/2019	09/19/2023	12/11/2023	03/05/2024	12/17/2019	05/14/2020	10/21/2020
Sample Type													
Parameters	**Units**												
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	**49**	--	1.2	0.50 J	1.0 U	--	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	--	--	25 U	--	2.0 U	--	--	--	2.0 U	2.0 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	1100000	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	50000 U	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	310000	--	320000	310000	--	--	--	370000	340000 B	--	--	--
Nitrate (as N)	ug/L	1200 H	--	1000 U	1000 U	100 UJ	--	--	1000 U	500 U	--	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	--	--	--	100 U	--
Phosphorus	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--
Sulfate	ug/L	480000	--	750000	750000	16000	--	--	14000	8300	--	--	--
Total organic carbon (TOC)	ug/L	15000	--	--	--	--	--	--	--	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	2.077	--	--	--	2.77	2.13	2210	--	--	1.81	1.73	--
Conductivity, field	uS/cm	--	2320	3500	2450	--	--	--	423	1830	--	--	--
Dissolved oxygen (DO), field	ug/L	1330	0	1110	650	10	0	310	0	810	100	210	--
Flow rate	mL/min	--	--	150	100	--	--	--	150	100	--	--	--
Oxidation reduction potential (ORP), field	millivolts	87	17	59	171	-174.9	-119	-131.4	-146	-192	61.1	-4	--
pH, field	s.u.	7.63	7.27	7.06	6.99	6.73	**6.21**	7.22	7.57	7.99	7.06	7.53	--
Temperature, sample	Deg C	15.2	16.27	9.45	7.28	22.34	11.36	19.5	10.23	14.14	10.52	10.3	--
Turbidity, field	NTU	138	4.77	2.64	3.45	4.66	2.22	3.5	2.66	4.1	1.01	0.58	--
Volume purged	gal	--	--	0.85	0.25	--	--	--	1.02	1.24	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-711I	CRA-711I	CRA-711I	CRA-711I	CRA-711I
Sample Identification		GW-11223073-071921-DA-001	GW-11223073-060222-AC-044	GW-11223073-060222-AC-045	GW-12602792-051123-LK-003	GW-12602792-231211-BB-003	GW-12602792-240307-LK-017	GW-12602792-240307-LK-018	GW-17358-102220-DR-014	GW-17358-102220-DR-015	GW-11223073-060321-DA-047	GW-11223073-060321-DA-048	GW-11223073-053122-AC-019
Sample Date		07/19/2021	06/02/2022	06/02/2022	05/11/2023	12/11/2023	03/07/2024	03/07/2024	10/22/2020	10/22/2020	06/03/2021	06/03/2021	05/31/2022
Sample Type				Duplicate				Duplicate		Duplicate		Duplicate	
Parameters	**Units**												
Gas													
Ethane	ug/L	--	0.56 J	0.60 J	--	1.0 U	1.0 U	1.0 U	--	--	--	--	0.36 J
Ethene	ug/L	--	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	0.53 J
Methane	ug/L	--	130	130	--	2.2	67	69	--	--	--	--	13
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	2	0.69 J	0.81 J	0.94 J	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1 U	2.0 U	2.0 U	2.0 U	--	--	--	1.0 U	--	1 U	1.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	10 U	10 U	--	--	--	10 U	--	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	--	--	--	10 U	--	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	10 U	10 U	--	--	--	10 U	--	10 U	10 U	10 U
Acetone	ug/L	10 U	10 U	10 U	10 U	--	--	--	10 U	--	10 U	10 U	10 U
Benzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Bromoform	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5 U	1.0 U	1.0 U	1.0 U	--	--	--	5.0 U	--	5 U	5.0 U	1.0 U
Carbon tetrachloride	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Chloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Cyclohexane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
m&p-Xylenes	ug/L	2 U	--	--	--	--	--	--	--	--	2 U	--	--
Methyl acetate	ug/L	1 U	10 U	10 U	10 U	--	--	--	10 U	--	1 U	10 U	10 U
Methyl cyclohexane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	5 U	1.0 U	1.0 U
Methylene chloride	ug/L	5 U	5.0 U	5.0 U	5.0 U	--	--	--	5.0 U	--	5 U	5.0 U	5.0 U
o-Xylene	ug/L	1 U	--	--	--	--	--	--	--	--	1 U	--	--
Styrene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.28 J	0.23 J	1 U	1.0 U	1.0 U
Toluene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Trichloroethene	ug/L	8	3.6	3.6	4.4	4.2	3.6	3.8	1.0 U	1.0 U	1 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	--	1 U	1.0 U	1.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-711I	CRA-711I	CRA-711I	CRA-711I	CRA-711I
Sample Identification		GW-11223073-071921-DA-001	GW-11223073-060222-AC-044	GW-11223073-060222-AC-045	GW-12602792-051123-LK-003	GW-12602792-231211-BB-003	GW-12602792-240307-LK-017	GW-12602792-240307-LK-018	GW-17358-102220-DR-014	GW-17358-102220-DR-015	GW-11223073-060321-DA-047	GW-11223073-060321-DA-048	GW-11223073-053122-AC-019
Sample Date		07/19/2021	06/02/2022	06/02/2022	05/11/2023	12/11/2023	03/07/2024	03/07/2024	10/22/2020	10/22/2020	06/03/2021	06/03/2021	05/31/2022
Sample Type				Duplicate				Duplicate		Duplicate		Duplicate	
Parameters	**Units**												
Vinyl chloride	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	11	11	11	7.9	1.0 U
Xylenes (total)	ug/L	--	2.0 U	2.0 U	2.0 U	--	--	--	2.0 U	--	--	2.0 U	2.0 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	310000	300000	--	390000	300000	300000	--	--	--	--	110000 B
Nitrate (as N)	ug/L	--	100 U	100 U	--	160 J	100 U	100 U	--	--	--	--	100 U
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	--	250000	250000	--	90000	57000	57000	--	--	--	--	26000
Total organic carbon (TOC)	ug/L	--	7800	7700	--	--	--	--	--	--	--	--	7300
Field Parameters													
Conductivity, field	mS/cm	1.24	1.122	1.122	--	--	--	--	--	--	0.89	1.89	0.347
Conductivity, field	uS/cm	--	--	--	961	1440	708	708	--	--	--	--	--
Dissolved oxygen (DO), field	ug/L	290	60	60	320	0	650	650	--	--	120	120	390
Flow rate	mL/min	--	--	--	--	150	100	100	--	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts	-33.3	-14.3	-14.3	-43	51	148	148	--	--	-97.8	-97.8	117.5
pH, field	s.u.	7.04	7.18	7.18	7.03	7.27	7.04	7.04	--	--	7.41	7.41	8.4
Temperature, sample	Deg C	22	13.3	13.3	18.42	9.79	7.17	7.17	--	--	15.2	15.2	15.4
Turbidity, field	NTU	--	1.37	1.37	2.96	1.44	4.75	4.75	--	--	3.47	3.47	1.53
Volume purged	gal	--	--	--	--	0.45	0.26	0.26	--	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-711I	CRA-711I	CRA-711I	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M
Sample Identification		GW-12602792-051123-LK-001	GW-12602792-231213-LK-026	GW-12602792-240307-BB-022	GW-17358-073118-DR-021	GW-17358-051920-DR-014	GW-11223073-052821-DR-040	GW-11223073-053122-AC-015	GW-11223073-101322-MR-006	GW-11223073-101322-MR-007	GW-12602792-051223-DR-020	GW-12602792-231211-BB-007	GW-12602792-240305-BB-005
Sample Date		05/11/2023	12/13/2023	03/07/2024	07/31/2018	05/19/2020	05/28/2021	05/31/2022	10/13/2022	10/13/2022	05/12/2023	12/11/2023	03/05/2024
Sample Type										Duplicate			
Parameters	**Units**												
Gas													
Ethane	ug/L	--	0.55 J	0.40 J	1.0 UJ	--	--	1.9	--	--	--	1.0 U	2.3
Ethene	ug/L	--	1.0 U	1.0 U	2.4 J	--	--	4.2	--	--	--	1.0 U	0.87 J
Methane	ug/L	--	190	150	45 J	--	--	2300	--	--	--	34	1700
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,1,2-Trichloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,1-Dichloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,1-Dichloroethene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,2,4-Trichlorobenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	--	--	5.0 U	1.0 U	1 U	2.0 U	--	--	2.0 U	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,2-Dichloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,2-Dichloropropane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	--	--	50 U	10 U	10 U	1.9 J	--	--	10 U	--	--
2-Hexanone	ug/L	10 U	--	--	50 U	10 U	10 U	10 U	--	--	10 U	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	--	--	50 U	10 U	10 U	10 U	--	--	10 U	--	--
Acetone	ug/L	10 U	--	--	50 U	10 U	10 U	14	--	--	10 U	--	--
Benzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Bromodichloromethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Bromoform	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Carbon disulfide	ug/L	1.0 U	--	--	25 U	5.0 U	5 U	1.0 U	--	--	1.0 U	--	--
Carbon tetrachloride	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Chlorobenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Chloroethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	7.2	1.0 U	1	2.6	--	--	1.6	3.5	5.9
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Cyclohexane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Dibromochloromethane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Ethylbenzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Isopropyl benzene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
m&p-Xylenes	ug/L	--	--	--	--	--	2 U	--	--	--	--	--	--
Methyl acetate	ug/L	10 U	--	--	50 U	10 U	1 U	10 U	--	--	10 U	--	--
Methyl cyclohexane	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	--	--	5.0 U	1.0 U	5 U	1.0 U	--	--	1.0 U	--	--
Methylene chloride	ug/L	5.0 U	--	--	25 U	5.0 U	5 U	5.0 U	--	--	5.0 U	--	--
o-Xylene	ug/L	--	--	--	--	--	1 U	--	--	--	--	--	--
Styrene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	35	15	5	6.2	--	--	5.7	1.3	0.91 J
Toluene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--	--	9.5	1.0 U	1 U	3.0	--	--	0.53 J	--	--
trans-1,3-Dichloropropene	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	7.3	0.59 J	2	2.5	--	--	1.2	0.93 J	0.92 J
Trichlorofluoromethane (CFC-11)	ug/L	4.3	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	--	--	5.0 U	1.0 U	1 U	1.0 U	--	--	1.0 U	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-711I	CRA-711I	CRA-711I	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M
Sample Identification		GW-12602792-051123-LK-001	GW-12602792-231213-LK-026	GW-12602792-240307-BB-022	GW-17358-073118-DR-021	GW-17358-051920-DR-014	GW-11223073-052821-DR-040	GW-11223073-053122-AC-015	GW-11223073-101322-MR-006	GW-11223073-101322-MR-007	GW-12602792-051223-DR-020	GW-12602792-231211-BB-007	GW-12602792-240305-BB-005
Sample Date		05/11/2023	12/13/2023	03/07/2024	07/31/2018	05/19/2020	05/28/2021	05/31/2022	10/13/2022	10/13/2022	05/12/2023	12/11/2023	03/05/2024
Sample Type										Duplicate			
Parameters	**Units**												
Vinyl chloride	ug/L	2.1	2.2	1.9	**65**	1.0 U	**18**	8.5	--	--	8.8	1.0 U	6.7
Xylenes (total)	ug/L	2.0 U	--	--	10 U	2.0 U	--	2.0 U	--	--	2.0 U	--	--
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	350000	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	5000 U	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	260000 B	260000	--	--	--	380000	--	--	--	150000	350000
Nitrate (as N)	ug/L	--	500 U	100 U	100 U	--	--	100 U	--	--	--	100 U	500 U
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	2400 J	1600 J	--	--	--
Orthophosphate	ug/L	--	--	--	--	20 U	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	10 U	--	--	--	--	--	--	--
Sulfate	ug/L	--	100000	100000	250000	--	--	160000	--	--	--	23000	62000
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--	23000	--	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	--	--	--	1.02	0.282	1.24	1.079	1.684	1.684	--	--	--
Conductivity, field	uS/cm	814	980	796	--	--	--	--	--	--	800	706	820
Dissolved oxygen (DO), field	ug/L	380	0	1120	230	40	290	630	840	840	400	0	1510
Flow rate	mL/min	--	150	100	--	--	--	--	--	--	--	100	100
Oxidation reduction potential (ORP), field	millivolts	-136	-102	-51	-71	73	-9.1	-236.1	-95.7	-95.7	-76.3	-41	-156
pH, field	s.u.	7.32	6.85	7.89	7.19	7.48	6.92	6.88	6.91	6.91	6.97	**6.36**	7.65
Temperature, sample	Deg C	17.17	9.29	10.14	24.03	12.3	12.7	17.3	18.4	18.4	13.2	9.93	11.93
Turbidity, field	NTU	1.03	2.68	1.1	4.63	4.67	4.65	9.59	3.2	3.2	3.72	14.8	4.9
Volume purged	gal	--	0.41	1.09	--	--	--	--	--	--	--	1.08	2.19

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M
Sample Identification		GW-17358-031618-DB-008	GW-17358-073118-DR-022	GW-17358-051920-DR-015	GW-11223073-052821-DR-041	GW-11223073-053122-AC-016	GW-11223073-080922-DA-007	GW-11223073-080922-DA-008	GW-12602792-051223-DR-021	GW-12602792-231114-BB-014	GW-12602792-231211-BB-005	GW-12602792-231211-BB-006	GW-12602792-240305-LK-004
Sample Date		03/16/2018	07/31/2018	05/19/2020	05/28/2021	05/31/2022	08/09/2022	08/09/2022	05/12/2023	11/14/2023	12/11/2023	12/11/2023	03/05/2024
Sample Type								Duplicate				Duplicate	
Parameters	**Units**												
Gas													
Ethane	ug/L	--	3.1	--	--	5.1	--	--	--	--	4.7	5.4	3.5
Ethene	ug/L	--	1.0 U	--	--	0.90 J	--	--	--	--	1.8	2.0	0.91 J
Methane	ug/L	--	700	--	--	1300	--	--	--	--	1300	1400	830
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,1-Dichloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,1-Dichloroethene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	3.3 U	1 U	2.0 U	--	--	2.0 U	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,2-Dichloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	10 U	33 U	10 U	10 U	--	--	10 U	--	--	--	--
2-Hexanone	ug/L	--	10 U	33 U	10 U	10 U	--	--	10 U	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	10 U	33 U	10 U	10 U	--	--	10 U	--	--	--	--
Acetone	ug/L	--	6.4 J	33 U	10 U	10 U	--	--	10 U	--	--	--	--
Benzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Bromodichloromethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Bromoform	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Carbon disulfide	ug/L	--	5.0 U	17 U	5 U	1.0 U	--	--	1.0 U	--	--	--	--
Carbon tetrachloride	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Chlorobenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Chloroethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	1.0 U	3.3 U	1 U	0.53 J	--	--	1.0 U	--	2.0	1.9	0.80 J
cis-1,3-Dichloropropene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Cyclohexane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Dibromochloromethane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Ethylbenzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Isopropyl benzene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
m&p-Xylenes	ug/L	--	--	--	2 U	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	10 U	33 U	1 U	10 U	--	--	10 U	--	--	--	--
Methyl cyclohexane	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	1.0 U	3.3 U	5 U	1.0 U	--	--	1.0 U	--	--	--	--
Methylene chloride	ug/L	--	5.0 U	17 U	5 U	5.0 U	--	--	5.0 U	--	--	--	--
o-Xylene	ug/L	--	--	--	1 U	--	--	--	--	--	--	--	--
Styrene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Tetrachloroethene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	1.0	0.94 J	1.0 U
Toluene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Trichloroethene	ug/L	--	4.2	3.3 U	1 U	1.0 U	--	--	1.0 U	--	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	1.0 U	3.3 U	1 U	1.0 U	--	--	1.0 U	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M
Sample Identification		GW-17358-031618-DB-008	GW-17358-073118-DR-022	GW-17358-051920-DR-015	GW-11223073-052821-DR-041	GW-11223073-053122-AC-016	GW-11223073-080922-DA-007	GW-11223073-080922-DA-008	GW-12602792-051223-DR-021	GW-12602792-231114-BB-014	GW-12602792-231211-BB-005	GW-12602792-231211-BB-006	GW-12602792-240305-LK-004
Sample Date		03/16/2018	07/31/2018	05/19/2020	05/28/2021	05/31/2022	08/09/2022	08/09/2022	05/12/2023	11/14/2023	12/11/2023	12/11/2023	03/05/2024
Sample Type								Duplicate				Duplicate	
Parameters	**Units**												
Vinyl chloride	ug/L	--	7.2	**74**	**59**	**38**	--	--	**28**	--	**14**	13	9.6
Xylenes (total)	ug/L	--	2.0 U	6.7 U	--	2.0 U	--	--	2.0 U	--	--	--	--
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	630000	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	5000 U	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	310000	--	--	--	--	290000	290000	240000
Nitrate (as N)	ug/L	--	100 U	--	--	100 U	--	--	--	--	100 U	100 U	500 U
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	20 U	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	10 U	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	--	250000	--	--	24000	--	--	--	--	19000	18000	22000
Total organic carbon (TOC)	ug/L	--	--	--	--	15000	--	--	--	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	--	1.76	1.06	1.09	0.642	0.704	0.704	--	--	--	--	--
Conductivity, field	uS/cm	--	--	--	--	--	--	--	760	770	1370	1370	489
Dissolved oxygen (DO), field	ug/L	--	170	60	200	550	20	20	280	940	730	730	1130
Flow rate	mL/min	--	--	--	--	--	--	--	--	100	100	100	100
Oxidation reduction potential (ORP), field	millivolts	--	-57	-100	-73.3	-266.1	-118.1	-118.1	-109.2	-77.3	-115	-115	-94
pH, field	s.u.	--	6.77	7.05	7.07	7.2	7.04	7.04	7.10	7.05	**5.99**	**5.99**	7.16
Temperature, sample	Deg C	--	22.07	12.3	13.1	19.5	23	23	13.8	16.5	8.20	8.20	14.29
Turbidity, field	NTU	--	4.88	1.88	1.07	3.42	4.94	4.94	3.12	6.65	2.89	2.89	4.12
Volume purged	gal	--	--	--	--	--	--	--	--	0.27	0	0	0.31

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-858I	CRA-858I	CRA-858I	CRA-858I
Sample Identification		GW-17358-080218-DR-058	GW-17358-102120-DR-010	GW-11223073-051321-DR-034	GW-11223073-060122-AC-034	GW-11223073-101322-MR-018	GW-12602792-051223-CM-014	GW-12602792-231213-JY-023	GW-12602792-240306-LK-011	GW-17358-080318-DR-061	GW-17358-102120-DR-005	GW-11223073-060421-DA-057	GW-11223073-060222-AC-046
Sample Date		08/02/2018	10/21/2020	05/13/2021	06/01/2022	10/13/2022	05/12/2023	12/13/2023	03/06/2024	08/03/2018	10/21/2020	06/04/2021	06/02/2022
Sample Type													
Parameters	**Units**												
Gas													
Ethane	ug/L	3.3	--	--	37	--	--	92	30	1.0 U	--	--	1.0 U
Ethene	ug/L	1.0 U	--	--	0.66 J	--	--	1.3	0.16 J	1.0 U	--	--	0.42 J
Methane	ug/L	850	--	--	5000	--	--	15000	3300	110	--	--	0.60 J
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,1,2,2-Tetrachloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,1,2-Trichloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,1-Dichloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,1-Dichloroethene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	1.0 U	1 U	2.0 U	--	2.0 U	--	--	1.0 U	2.0 U	1 U	4.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,2-Dichlorobenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,2-Dichloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,2-Dichloropropane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,3-Dichlorobenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
1,4-Dichlorobenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	50 U	10 U	10 U	10 U	--	10 U	--	--	10 U	20 U	10 U	20 U
2-Hexanone	ug/L	50 U	10 U	10 U	10 U	--	10 U	--	--	10 U	20 U	10 U	20 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	10 U	10 U	--	10 U	--	--	0.88 J	20 U	10 U	20 U
Acetone	ug/L	50 U	10 U	27	10 U	--	10 U	--	--	6.6 J	20 U	10 U	20 U
Benzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Bromodichloromethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Bromoform	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Carbon disulfide	ug/L	25 U	5.0 U	5 U	1.0 U	--	1.0 U	--	--	1.3 J	10 U	5 U	2.0 U
Carbon tetrachloride	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Chlorobenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Chloroethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Chloroform (Trichloromethane)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
cis-1,2-Dichloroethene	ug/L	9.9 J	7.3	5	7.6	--	13	22	1.1	0.32 J	2.0 U	1 U	2.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Ethylbenzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
m&p-Xylenes	ug/L	--	--	2 U	--	--	--	--	--	--	--	2 U	--
Methyl acetate	ug/L	50 U	10 U	1 U	10 U	--	10 U	--	--	10 U	20 U	1 U	20 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	5 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	5 U	2.0 U
Methylene chloride	ug/L	25 U	5.0 U	5 U	5.0 U	--	5.0 U	--	--	5.0 U	10 U	5 U	10 U
o-Xylene	ug/L	--	--	1 U	--	--	--	--	--	--	--	1 U	--
Styrene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Tetrachloroethene	ug/L	**95 J**	4.9	5	8.7	--	7.1	11	0.69 J	0.46 J	2.0 U	1 U	2.0 U
Toluene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	0.14 J	2.0 U	1 U	2.0 U
trans-1,2-Dichloroethene	ug/L	5.0 U	0.22 J	1 U	1.0 U	--	0.63 J	--	--	1.0 U	2.0 U	1 U	2.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Trichloroethene	ug/L	4.8 J	2.1	3	4.1	--	3.7	3.4	0.66 J	0.14 J	2.0 U	1 U	2.0 U
Trichlorofluoromethane (CFC-11)	ug/L	5.0 UJ	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	5.0 U	1.0 U	1 U	1.0 U	--	1.0 U	--	--	1.0 U	2.0 U	1 U	2.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-858I	CRA-858I	CRA-858I	CRA-858I
Sample Identification		GW-17358-080218-DR-058	GW-17358-102120-DR-010	GW-11223073-051321-DR-034	GW-11223073-060122-AC-034	GW-11223073-101322-MR-018	GW-12602792-051223-CM-014	GW-12602792-231213-JY-023	GW-12602792-240306-LK-011	GW-17358-080318-DR-061	GW-17358-102120-DR-005	GW-11223073-060421-DA-057	GW-11223073-060222-AC-046
Sample Date		08/02/2018	10/21/2020	05/13/2021	06/01/2022	10/13/2022	05/12/2023	12/13/2023	03/06/2024	08/03/2018	10/21/2020	06/04/2021	06/02/2022
Sample Type													
Parameters	**Units**												
Vinyl chloride	ug/L	5.0 U	7.6	5	2.8	--	3.7	6.6	1.0 U	1.0 U	2.0 U	1 U	2.0 U
Xylenes (total)	ug/L	10 U	2.0 U	--	2.0 U	--	2.0 U	--	--	0.27 J	4.0 U	--	4.0 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	360000	--	--	--	--	--	--	--	310000	--	--	--
Alkalinity, carbonate	ug/L	5000 U	--	--	--	--	--	--	--	5000 U	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	--	--	470000	--	--	490000	200000	--	--	--	130000
Nitrate (as N)	ug/L	100 UJ	--	--	100 U	--	--	500 U	330	100 UJ	--	--	100 U
Oil and grease (HEM), total	ug/L	--	--	--	--	7600	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	37000	--	--	15000	--	--	3900	4900	100000	--	--	37000
Total organic carbon (TOC)	ug/L	--	--	--	24000	--	--	--	--	--	--	--	36000
Field Parameters													
Conductivity, field	mS/cm	0.69	--	1.05	0.843	3.618	--	--	--	1.104	--	0.45	0.341
Conductivity, field	uS/cm	--	--	--	--	--	1440	1910	481	--	--	--	--
Dissolved oxygen (DO), field	ug/L	30	--	1240	690	1210	0	140	3880	230	--	3290	1340
Flow rate	mL/min	--	--	--	--	--	--	100	5.2	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts	-52.2	--	-131	-255.3	-113.1	-144	-120	-27	-138	--	-7.2	22.1
pH, field	s.u.	7.31	--	7.45	7.24	7.02	7.34	6.76	6.98	7.65	--	7.93	7.98
Temperature, sample	Deg C	21.5	--	11.72	14.7	17.6	17.01	10.5	7.79	16.33	--	15.91	14.6
Turbidity, field	NTU	4.39	--	3.21	3.64	4.21	3.45	1.85	4.98	38.2	--	2.14	2.71
Volume purged	gal	--	--	--	--	--	--	0.02	0.08	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-858I	CRA-858I	CRA-858I	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M
Sample Identification		GW-12602792-051123-CM-008	GW-12602792-231212-LK-018	GW-12602792-240306-BB-016	GW-17358-080318-DR-062	GW-17358-080318-DR-063	GW-17358-102120-DR-007	GW-11223073-051321-DR-038	GW-11223073-051321-DR-039	GW-11223073-060122-AC-027	GW-11223073-060122-AC-028	GW-12602792-051123-LK-007	GW-12602792-231213-BB-029
Sample Date		05/11/2023	12/12/2023	03/06/2024	08/03/2018	08/03/2018	10/21/2020	05/13/2021	05/13/2021	06/01/2022	06/01/2022	05/11/2023	12/13/2023
Sample Type						Duplicate			Duplicate		Duplicate		
Parameters	**Units**												
Gas													
Ethane	ug/L	--	1.5	1.5	1.0 U	1.0 U	--	--	--	17	19	--	1.0 U
Ethene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.71 J	0.70 J	--	1.0 U
Methane	ug/L	--	420	330	90	87	--	--	--	2000	2400	--	0.34 J
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,1-Dichloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,1-Dichloroethene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,2,4-Trichlorobenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	--	--	200 U	200 U	170 U	20 U	20 U	130 U	100 U	130 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,2-Dichloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,2-Dichloropropane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	--	--	2000 U	2000 U	1700 U	200 U	200 U	670 U	500 U	630 U	--
2-Hexanone	ug/L	10 U	--	--	2000 U	2000 U	1700 U	200 U	200 U	670 U	500 U	630 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	--	--	2000 U	2000 U	1700 U	200 U	200 U	670 U	500 U	630 U	--
Acetone	ug/L	10 U	--	--	2000 U	2000 U	1700 U	200 U	200 U	670 U	500 U	630 U	--
Benzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Bromodichloromethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Bromoform	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Carbon disulfide	ug/L	1.0 U	--	--	1000 U	1000 U	830 U	100 U	100 U	67 U	50 U	63 U	--
Carbon tetrachloride	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Chlorobenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Chloroethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	59 J	49 J	55 J	20 U	20	45 J	92	63 U	50 U
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Cyclohexane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Dibromochloromethane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Ethylbenzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Isopropyl benzene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
m&p-Xylenes	ug/L	--	--	--	--	--	--	40 U	40 U	--	--	--	--
Methyl acetate	ug/L	10 U	--	--	2000 U	2000 U	1700 U	20 U	20 U	670 U	500 U	630 U	--
Methyl cyclohexane	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	--	--	200 U	200 U	170 U	100 U	100 U	67 U	50 U	63 U	--
Methylene chloride	ug/L	5.0 U	--	--	1000 U	1000 U	830 U	100 U	100 U	330 U	250 U	310 U	--
o-Xylene	ug/L	--	--	--	--	--	--	20 U	20 U	--	--	--	--
Styrene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	**5600**	**5300**	**3200**	**1480**	**1500**	**2400**	**1900**	**1500**	**1100**
Toluene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
trans-1,3-Dichloropropene	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	76 J	76 J	40 J	20 U	20 U	37 J	64	63 U	50 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	--	--	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		CRA-858I	CRA-858I	CRA-858I	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M
Sample Identification		GW-12602792-051123-CM-008	GW-12602792-231212-LK-018	GW-12602792-240306-BB-016	GW-17358-080318-DR-062	GW-17358-080318-DR-063	GW-17358-102120-DR-007	GW-11223073-051321-DR-038	GW-11223073-051321-DR-039	GW-11223073-060122-AC-027	GW-11223073-060122-AC-028	GW-12602792-051123-LK-007	GW-12602792-231213-BB-029
Sample Date		05/11/2023	12/12/2023	03/06/2024	08/03/2018	08/03/2018	10/21/2020	05/13/2021	05/13/2021	06/01/2022	06/01/2022	05/11/2023	12/13/2023
Sample Type						Duplicate			Duplicate		Duplicate		
Parameters	**Units**												
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	200 U	200 U	170 U	20 U	20 U	67 U	50 U	63 U	50 U
Xylenes (total)	ug/L	2.0 U	--	--	400 U	400 U	330 U	--	--	130 U	100 U	130 U	--
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	510000	520000	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	5000 U	5000 U	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	250000	250000	--	--	--	--	--	370000	360000	--	280000 B
Nitrate (as N)	ug/L	--	1000 U	100 U	340 J	340 J	--	--	--	870 H	840 H	--	600
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	--	35000	34000	79000	79000	--	--	--	65000	64000	--	77000
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--	--	--	8800	9500	--	--
Field Parameters													
Conductivity, field	mS/cm	--	--	--	1.76	1.76	--	1.1	1.1	0.971	0.971	--	--
Conductivity, field	uS/cm	1800	3300	2050	--	--	--	--	--	--	--	774	1010
Dissolved oxygen (DO), field	ug/L	0	0	540	390	390	--	1460	1460	800	800	460	0
Flow rate	mL/min	--	150	100	--	--	--	--	--	--	--	--	100
Oxidation reduction potential (ORP), field	millivolts	-166	-162	-42	26	26	--	74	74	76.7	76.7	87	136
pH, field	s.u.	7.59	7.54	7.73	7.55	7.55	--	7.4	7.4	7.23	7.23	7.15	6.73
Temperature, sample	Deg C	15.72	13.17	11.40	21.62	21.62	--	13.72	13.72	17.2	17.2	25.45	10.73
Turbidity, field	NTU	0.95	1.58	3.4	2.15	2.15	--	1.09	1.09	2.02	2.02	1.56	1.7
Volume purged	gal	--	0.94	1.28	--	--	--	--	--	--	--	--	1.07

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-859M	GHD-859M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M
Sample Identification		GW-12602792-231213-BB-030	GW-12602792-240306-BB-014	GW-17358-080118-DR-041	GW-17358-051420-DR-003	GW-17358-052220-DR-003	GW-17358-102120-DR-011	GW-11223073-051321-DR-035	GW-11223073-060122-AC-032	GW-12602792-051223-CM-012	GW-12602792-231213-JY-024	GW-12602792-240305-BB-006	GW-12602792-240305-BB-007
Sample Date		12/13/2023	03/06/2024	08/01/2018	05/14/2020	05/22/2020	10/21/2020	05/13/2021	06/01/2022	05/12/2023	12/13/2023	03/05/2024	03/05/2024
Sample Type		Duplicate											Duplicate
Parameters	**Units**												
Gas													
Ethane	ug/L	1.0 U	1.0 U	1.0 UJ	--	--	--	--	33	--	57	55	58
Ethene	ug/L	1.0 U	1.0 U	4.9 J	--	--	--	--	12	--	40	21	21
Methane	ug/L	0.34 J	0.81 J	3200 J	--	--	--	--	13000	--	16000	17000	18000
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,1-Dichloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,1-Dichloroethene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	250 U	1000 U	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,2-Dichloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,2-Dichloropropane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	5000 U	2500 U	--	10000 U	2000 U	1300 U	5000 U	--	--	--
2-Hexanone	ug/L	--	--	5000 U	2500 U	--	10000 U	2000 U	1300 U	5000 U	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	5000 U	2500 U	--	10000 U	2000 U	1300 U	5000 U	--	--	--
Acetone	ug/L	--	--	5000 U	2500 U	--	10000 U	2000 U	1300 U	5000 U	--	--	--
Benzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Bromodichloromethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Bromoform	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Carbon disulfide	ug/L	--	--	2500 U	1300 U	--	5000 U	1000 U	130 U	500 U	--	--	--
Carbon tetrachloride	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Chlorobenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Chloroethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
cis-1,2-Dichloroethene	ug/L	50 U	63	**2400**	**2100**	--	**3600**	**3900**	**830**	**1600**	**2300**	**1500**	**1600**
cis-1,3-Dichloropropene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Cyclohexane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Dibromochloromethane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Ethylbenzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Isopropyl benzene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
m&p-Xylenes	ug/L	--	--	--	--	--	--	400 U	--	--	--	--	--
Methyl acetate	ug/L	--	--	5000 U	2500 U	--	10000 U	200 U	1300 U	5000 U	--	--	--
Methyl cyclohexane	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	500 U	250 U	--	1000 U	1000 U	130 U	500 U	--	--	--
Methylene chloride	ug/L	--	--	2500 U	1300 U	--	5000 U	1000 U	630 U	2500 U	--	--	--
o-Xylene	ug/L	--	--	--	--	--	--	200 U	--	--	--	--	--
Styrene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Tetrachloroethene	ug/L	**1100**	**1200**	**15000**	**16000**	--	**21000**	**28600**	**8400**	**18000**	**16000**	**12000**	**13000**
Toluene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Trichloroethene	ug/L	50 U	40 U	**1000**	**1500**	--	**2100**	**3800**	**950**	**1600**	**1900**	**1400**	**1500**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	500 U	250 U	--	1000 U	200 U	130 U	500 U	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-859M	GHD-859M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M
Sample Identification		GW-12602792-231213-BB-030	GW-12602792-240306-BB-014	GW-17358-080118-DR-041	GW-17358-051420-DR-003	GW-17358-052220-DR-003	GW-17358-102120-DR-011	GW-11223073-051321-DR-035	GW-11223073-060122-AC-032	GW-12602792-051223-CM-012	GW-12602792-231213-JY-024	GW-12602792-240305-BB-006	GW-12602792-240305-BB-007
Sample Date		12/13/2023	03/06/2024	08/01/2018	05/14/2020	05/22/2020	10/21/2020	05/13/2021	06/01/2022	05/12/2023	12/13/2023	03/05/2024	03/05/2024
Sample Type		Duplicate											Duplicate
Parameters	**Units**												
Vinyl chloride	ug/L	50 U	40 U	**180 J**	**210 J**	--	1000 U	**300**	**83 J**	500 U	**300 J**	**160**	**190**
Xylenes (total)	ug/L	--	--	1000 U	500 U	--	2000 U	--	250 U	1000 U	--	--	--
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	460000	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	5000 U	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	280000 B	270000	--	--	--	--	--	470000	--	480000	490000	500000
Nitrate (as N)	ug/L	640	980	200	--	--	--	--	100 U	--	500 U	500 U	500 U
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	100 U	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	41	--	--	--	--	--	--	--	--
Sulfate	ug/L	77000	83000	56000	--	--	--	--	3400	--	2500	1400	1400
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--	--	24000	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	--	--	1.232	1.02	--	--	1.07	0.968	--	--	--	--
Conductivity, field	uS/cm	1010	762	--	--	--	--	--	--	1310	2140	1230	1230
Dissolved oxygen (DO), field	ug/L	0	670	1320	130	--	--	650	630	0	450	3770	3770
Flow rate	mL/min	100	100	--	--	--	--	--	--	--	100	100	100
Oxidation reduction potential (ORP), field	millivolts	136	182	8	-98.6	--	--	-101	-266	-130	-112	-132	-132
pH, field	s.u.	6.73	7.70	7.01	6.92	--	--	7.47	6.81	7.09	6.70	7.40	7.40
Temperature, sample	Deg C	10.73	9.20	21.45	10.5	--	--	14.09	17.4	20.41	10.2	13.72	13.72
Turbidity, field	NTU	1.7	3.9	46.4	13.7	14	--	4.62	12.01	4.56	1.1	14.6	14.6
Volume purged	gal	1.07	1.33	--	--	--	--	--	--	--	-0.03	2.37	2.37

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1151M	GHD-1151M	GHD-1151M	GHD-1151M
Sample Identification		**GW-17358-080318-DR-060**	**GW-17358-051420-DR-006**	**GW-17358-102120-DR-006**	**GW-11223073-051321-DR-037**	**GW-11223073-060122-AC-031**	**GW-12602792-051123-CM-010**	**GW-12602792-231213-BB-031**	**GW-12602792-240306-BB-015**	**GW-17358-080118-DR-040**	**GW-17358-102120-DR-012**	**GW-11223073-051321-DR-036**	**GW-11223073-060122-AC-033**
Sample Date		**08/03/2018**	**05/14/2020**	**10/21/2020**	**05/13/2021**	**06/01/2022**	**05/11/2023**	**12/13/2023**	**03/06/2024**	**08/01/2018**	**10/21/2020**	**05/13/2021**	**06/01/2022**
Sample Type													
Parameters	**Units**												
Gas													
Ethane	ug/L	1.0 U	--	--	--	0.41 J	--	1.0 U	1.0 U	1.0 UJ	--	--	23
Ethene	ug/L	1.0 U	--	--	--	0.40 J	--	2.7	2.7	7.7 J	--	--	7.0
Methane	ug/L	35	--	--	--	7.8	--	13	13	4200 J	--	--	11000
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,1,2,2-Tetrachloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,1,2-Trichloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,1-Dichloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,1-Dichloroethene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,2,4-Trichlorobenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1300 U	400 U	500 U	100 U	290 U	400 U	--	--	2000 U	2500 U	200 U	1000 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,2-Dichlorobenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,2-Dichloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,2-Dichloropropane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,3-Dichlorobenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
1,4-Dichlorobenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000 U	4000 U	5000 U	1000 U	1400 U	2000 U	--	--	20000 U	25000 U	2000 U	5000 U
2-Hexanone	ug/L	13000 U	4000 U	5000 U	1000 U	1400 U	2000 U	--	--	20000 U	25000 U	2000 U	5000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	13000 U	4000 U	5000 U	1000 U	1400 U	2000 U	--	--	20000 U	25000 U	2000 U	5000 U
Acetone	ug/L	13000 U	4000 U	5000 U	1000 U	1400 U	2000 U	--	--	20000 U	25000 U	2000 U	5000 U
Benzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Bromodichloromethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Bromoform	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Bromomethane (Methyl bromide)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Carbon disulfide	ug/L	6300 U	2000 U	2500 U	500 U	140 U	200 U	--	--	10000 U	13000 U	1000 U	500 U
Carbon tetrachloride	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Chlorobenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Chloroethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Chloroform (Trichloromethane)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Chloromethane (Methyl chloride)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
cis-1,2-Dichloroethene	ug/L	280 J	430	170 J	300	130 J	250	620	310	**1800 J**	**4700**	**3000**	**2900**
cis-1,3-Dichloropropene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Cyclohexane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Dibromochloromethane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Dichlorodifluoromethane (CFC-12)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Ethylbenzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Isopropyl benzene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
m&p-Xylenes	ug/L	--	--	--	200 U	--	--	--	--	--	--	400 U	--
Methyl acetate	ug/L	13000 U	4000 U	5000 U	100 U	1400 U	2000 U	--	--	20000 U	25000 U	200 U	5000 U
Methyl cyclohexane	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Methyl tert butyl ether (MTBE)	ug/L	1300 U	400 U	500 U	500 U	140 U	200 U	--	--	2000 U	2500 U	1000 U	500 U
Methylene chloride	ug/L	6300 U	2000 U	2500 U	500 U	710 U	1000 U	--	--	10000 U	13000 U	1000 U	2500 U
o-Xylene	ug/L	--	--	--	100 U	--	--	--	--	--	--	200 U	--
Styrene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Tetrachloroethene	ug/L	**44000**	**22000**	**19000**	**10800**	**7300**	**6100**	**5600**	**4800**	**39000**	**39000**	**25400**	**29000**
Toluene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
trans-1,2-Dichloroethene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
trans-1,3-Dichloropropene	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Trichloroethene	ug/L	**740 J**	**270 J**	**240 J**	**300**	130 J	130 J	100	69	**1900 J**	**4300**	**1800**	**1800**
Trichlorofluoromethane (CFC-11)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U
Trifluorotrichloroethane (CFC-113)	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	--	--	2000 U	2500 U	200 U	500 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1151M	GHD-1151M	GHD-1151M	GHD-1151M
Sample Identification		GW-17358-080318-DR-060	GW-17358-051420-DR-006	GW-17358-102120-DR-006	GW-11223073-051321-DR-037	GW-11223073-060122-AC-031	GW-12602792-051123-CM-010	GW-12602792-231213-BB-031	GW-12602792-240306-BB-015	GW-17358-080118-DR-040	GW-17358-102120-DR-012	GW-11223073-051321-DR-036	GW-11223073-060122-AC-033
Sample Date		08/03/2018	05/14/2020	10/21/2020	05/13/2021	06/01/2022	05/11/2023	12/13/2023	03/06/2024	08/01/2018	10/21/2020	05/13/2021	06/01/2022
Sample Type													
Parameters	**Units**												
Vinyl chloride	ug/L	1300 U	400 U	500 U	100 U	140 U	200 U	50 U	5.1 J	2000 U	2500 U	200 U	500 U
Xylenes (total)	ug/L	2500 U	800 U	1000 U	--	290 U	400 U	--	--	4000 U	5000 U	--	1000 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	360000	--	--	--	--	--	--	--	600000	--	--	--
Alkalinity, carbonate	ug/L	5000 U	--	--	--	--	--	--	--	5000 U	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	230000	--	280000 B	290000	--	--	--	420000
Nitrate (as N)	ug/L	21 J	--	--	--	420 H	--	500 U	680	8000	--	--	140 H
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	100 U	--	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	10 U	--	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	88000	--	--	--	72000	--	130000	110000	74000	--	--	12000
Total organic carbon (TOC)	ug/L	--	--	--	--	15000	--	--	--	--	--	--	18000
Field Parameters													
Conductivity, field	mS/cm	1.15	1.044	--	0.855	0.696	--	--	--	1.4	--	0.826	0.73
Conductivity, field	uS/cm	--	--	--	--	--	1370	1320	817	--	--	--	--
Dissolved oxygen (DO), field	ug/L	300	170	--	580	1270	750	0	560	30	--	650	620
Flow rate	mL/min	--	--	--	--	--	--	100	100	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts	55	-101	--	9	36.7	-23	61	185	-30.9	--	-71	1.5
pH, field	s.u.	7.16	7.57	--	7.36	7.27	7.35	6.93	7.69	6.88	--	7.45	6.98
Temperature, sample	Deg C	19.4	10.64	--	14.02	20.6	14.50	8.78	9.43	21.69	--	14.69	17
Turbidity, field	NTU	1.72	0.41	--	1.46	1.9	0.81	1.6	1.2	3.44	--	2.72	4.7
Volume purged	gal	--	--	--	--	--	--	0.95	1.05	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1151M	GHD-1151M	GHD-1151M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1220M	GHD-1220M	GHD-1220M	GHD-1220M	GHD-1220M
Sample Identification		GW-12602792-051223-LK-011	GW-12602792-231213-JY-022	GW-12602792-240305-BB-008	GW-11223073-053122-AC-018	GW-12602792-051223-LK-017	GW-12602792-231212-JY-019	GW-12602792-240305-LK-002	GW-17358-051420-DR-002	GW-17358-102220-DR-013	GW-11223073-060321-DA-045	GW-11223073-060321-DA-046	GW-11223073-060122-AC-029
Sample Date		05/12/2023	12/13/2023	03/05/2024	05/31/2022	05/12/2023	12/12/2023	03/05/2024	05/14/2020	10/22/2020	06/03/2021	06/03/2021	06/01/2022
Sample Type												Duplicate	
Parameters	**Units**												
Gas													
Ethane	ug/L	--	27	33	0.78 J	--	0.30 J	1.1	--	--	--	--	0.40 J
Ethene	ug/L	--	24	15	1.0 U	--	1.0 U	1.0 U	--	--	--	--	0.82 J
Methane	ug/L	--	13000	13000	250	--	1300	1600	--	--	--	--	520
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	3.1 J	50 U	20 U	50 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,1,2-Trichloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,1-Dichloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	2.3 J	50 U	20 U	50 U	5.0 U
1,1-Dichloroethene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,2,4-Trichlorobenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	4000 U	--	--	2.0 U	2.0 U	--	--	8.0 U	50 U	20 U	50 U	10 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,2-Dichlorobenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,2-Dichloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,2-Dichloropropane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,3-Dichlorobenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
1,4-Dichlorobenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	20000 U	--	--	10 U	10 U	--	--	80 U	500 U	200 U	500 U	50 U
2-Hexanone	ug/L	20000 U	--	--	10 U	10 U	--	--	80 U	500 U	200 U	500 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20000 U	--	--	10 U	10 U	--	--	80 U	500 U	200 U	500 U	50 U
Acetone	ug/L	20000 U	--	--	10 U	10 U	--	--	80 U	500 U	200 U	500 U	50 U
Benzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Bromodichloromethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Bromoform	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Carbon disulfide	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	40 U	250 U	100 U	250 U	5.0 U
Carbon tetrachloride	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Chlorobenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Chloroethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Chloroform (Trichloromethane)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
cis-1,2-Dichloroethene	ug/L	**4100**	**4900**	**5300**	0.70 J	1.0 U	1.0 U	1.0 U	230	**1400**	**1180**	**840**	240
cis-1,3-Dichloropropene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Cyclohexane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Dibromochloromethane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Ethylbenzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Isopropyl benzene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
m&p-Xylenes	ug/L	--	--	--	--	--	--	--	--	--	40 U	--	--
Methyl acetate	ug/L	20000 U	--	--	10 U	10 U	--	--	80 U	500 U	20 U	500 U	50 U
Methyl cyclohexane	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	100 U	50 U	5.0 U
Methylene chloride	ug/L	10000 U	--	--	5.0 U	5.0 U	--	--	40 U	250 U	100 U	250 U	25 U
o-Xylene	ug/L	--	--	--	--	--	--	--	--	--	20 U	--	--
Styrene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Tetrachloroethene	ug/L	**82000**	**29000**	**36000**	1.0 U	1.0 U	1.0 U	1.0 U	8.0 U	8.8 J	20 U	50 U	3.0 J
Toluene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
trans-1,2-Dichloroethene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	9.3	36 J	40	28 J	12
trans-1,3-Dichloropropene	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Trichloroethene	ug/L	**3200**	**2000**	**2500**	1.0 U	1.0 U	1.0 U	1.0 U	6.0 J	38 J	20	17 J	8.6
Trichlorofluoromethane (CFC-11)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	2000 U	--	--	1.0 U	1.0 U	--	--	8.0 U	50 U	20 U	50 U	5.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1151M	GHD-1151M	GHD-1151M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1220M	GHD-1220M	GHD-1220M	GHD-1220M	GHD-1220M
Sample Identification		GW-12602792-051223-LK-011	GW-12602792-231213-JY-022	GW-12602792-240305-BB-008	GW-11223073-053122-AC-018	GW-12602792-051223-LK-017	GW-12602792-231212-JY-019	GW-12602792-240305-LK-002	GW-17358-051420-DR-002	GW-17358-102220-DR-013	GW-11223073-060321-DA-045	GW-11223073-060321-DA-046	GW-11223073-060122-AC-029
Sample Date		05/12/2023	12/13/2023	03/05/2024	05/31/2022	05/12/2023	12/12/2023	03/05/2024	05/14/2020	10/22/2020	06/03/2021	06/03/2021	06/01/2022
Sample Type												Duplicate	
Parameters	**Units**												
Vinyl chloride	ug/L	2000 U	**300**	**300**	1.0 U	1.0 U	1.0 U	1.0 U	**160**	**220**	**250**	**200**	**30**
Xylenes (total)	ug/L	4000 U	--	--	2.0 U	2.0 U	--	--	16 U	100 U	--	100 U	10 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	490000	480000 B	310000	--	200000	140000	--	--	--	--	240000
Nitrate (as N)	ug/L	--	500 U	500 U	100 U	--	100 U	540	--	--	--	--	510 H
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	100 U	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	5.3 J	--	--	--	--
Sulfate	ug/L	--	5700	2200	21000	--	1400	4900	--	--	--	--	58000
Total organic carbon (TOC)	ug/L	--	--	--	14000	--	--	--	--	--	--	--	6000
Field Parameters													
Conductivity, field	mS/cm	--	--	--	0.735	--	--	--	1.37	--	1.26	1.26	0.64
Conductivity, field	uS/cm	1110	1520	969	--	755	514	245	--	--	--	--	--
Dissolved oxygen (DO), field	ug/L	280	590	3210	440	180	4590	3310	260	--	740	740	970
Flow rate	mL/min	--	100	100	--	--	100	100	--	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts	-110	-104	-133	157	-109	-78	87	111	--	186.9	186.9	58.6
pH, field	s.u.	6.96	6.59	7.44	7.64	7.44	8.41	**9.22**	7.56	--	7.25	7.25	7.74
Temperature, sample	Deg C	19.44	11.0	14.81	17.6	20.26	10.2	12.30	10.6	--	16.34	16.34	19.3
Turbidity, field	NTU	2.17	7.95	9.2	2.47	2.84	1.91	4.65	4.9	--	103.5	103.5	21.6
Volume purged	gal	--	0.08	1.28	--	--	-0.14	1.06	--	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1220M	GHD-1220M	GHD-1220M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1226M	GHD-1226M
Sample Identification		GW-12602792-051123-LK-005	GW-12602792-231213-BB-032	GW-12602792-240307-BB-021	GW-17358-052620-DR-031	GW-17358-102120-DR-008	GW-11223073-060321-DA-052	GW-11223073-060122-AC-030	GW-12602792-051123-CM-006	GW-12602792-231212-LK-021	GW-12602792-240307-LK-020	GW-17358-052620-DR-030	GW-17358-102120-DR-009
Sample Date		05/11/2023	12/13/2023	03/07/2024	05/26/2020	10/21/2020	06/03/2021	06/01/2022	05/11/2023	12/12/2023	03/07/2024	05/26/2020	10/21/2020
Sample Type													
Parameters	**Units**												
Gas													
Ethane	ug/L	--	1.8	0.91 J	--	--	--	0.31 J	--	0.31 J	1.0 U	--	--
Ethene	ug/L	--	1.0 U	1.0 U	--	--	--	0.28 J	--	1.3	0.70 J	--	--
Methane	ug/L	--	2.8	7.0	--	--	--	230	--	680	390	--	--
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	17 U	--	--	1.0 U	1.0 U	1 U	2.0 U	2.0 U	--	--	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	83 U	--	--	10 U	10 U	10 U	10 U	10 U	--	--	10 U	10 U
2-Hexanone	ug/L	83 U	--	--	10 U	10 U	10 U	10 U	10 U	--	--	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	83 U	--	--	10 U	10 U	10 U	10 U	10 U	--	--	10 U	10 U
Acetone	ug/L	83 U	--	--	10 U	10 U	10 U	10 U	10 U	--	--	10 U	10 U
Benzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Bromoform	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Carbon disulfide	ug/L	8.3 U	--	--	5.0 U	5.0 U	5 U	1.0 U	1.0 U	--	--	5.0 U	5.0 U
Carbon tetrachloride	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Chlorobenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Chloroethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	120	42	59	19	19	26	11	11	6.4	6.2	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Cyclohexane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Dibromochloromethane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Ethylbenzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Isopropyl benzene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
m&p-Xylenes	ug/L	--	--	--	--	--	2 U	--	--	--	--	--	--
Methyl acetate	ug/L	83 U	--	--	10 U	10 U	1 U	10 U	10 U	--	--	10 U	10 U
Methyl cyclohexane	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	8.3 U	--	--	1.0 U	1.0 U	5 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Methylene chloride	ug/L	42 U	--	--	5.0 U	5.0 U	5 U	5.0 U	5.0 U	--	--	5.0 U	5.0 U
o-Xylene	ug/L	--	--	--	--	--	1 U	--	--	--	--	--	--
Styrene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Tetrachloroethene	ug/L	8.3 U	3.5	1.9 J	4.0	5.4	6	2.9	1.7	1.6	1.9	1.0 U	0.18 J
Toluene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	6.4 J	--	--	0.42 J	0.64 J	1 U	0.90 J	1.6	--	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Trichloroethene	ug/L	4.0 J	1.5	2.0 J	1.0 U	0.13 J	1 U	1.0 U	0.45 J	0.53 J	0.45 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	8.3 U	--	--	1.0 U	1.0 U	1 U	1.0 U	1.0 U	--	--	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	8.3 U	--	--	0.49 J	0.68 J	1 U	0.43 J	1.0 U	--	--	1.0 U	1.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1220M	GHD-1220M	GHD-1220M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1226M	GHD-1226M
Sample Identification		GW-12602792-051123-LK-005	GW-12602792-231213-BB-032	GW-12602792-240307-BB-021	GW-17358-052620-DR-031	GW-17358-102120-DR-008	GW-11223073-060321-DA-052	GW-11223073-060122-AC-030	GW-12602792-051123-CM-006	GW-12602792-231212-LK-021	GW-12602792-240307-LK-020	GW-17358-052620-DR-030	GW-17358-102120-DR-009
Sample Date		05/11/2023	12/13/2023	03/07/2024	05/26/2020	10/21/2020	06/03/2021	06/01/2022	05/11/2023	12/12/2023	03/07/2024	05/26/2020	10/21/2020
Sample Type													
Parameters	**Units**												
Vinyl chloride	ug/L	**14**	1.7	**21**	1.3	1.9	2	2.7	**23**	**14**	10	2.8	12
Xylenes (total)	ug/L	17 U	--	--	2.0 U	2.0 U	--	2.0 U	2.0 U	--	--	2.0 U	2.0 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	260000 B	240000	--	--	--	250000	--	270000	290000	--	--
Nitrate (as N)	ug/L	--	500 U	520	--	--	--	92 JH	--	500 U	100 U	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	32 J	--	--	--	--	--	--	26 J	--
Phosphorus	ug/L	--	--	--	10 U	--	--	--	--	--	--	10 U	--
Sulfate	ug/L	--	100000	74000	--	--	--	150000	--	180000	160000	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--	8000	--	--	--	--	--
Field Parameters													
Conductivity, field	mS/cm	--	--	--	0.98	--	0.79	0.815	--	--	--	0.7	--
Conductivity, field	uS/cm	652	1100	607	--	--	--	--	985	1500	953	--	--
Dissolved oxygen (DO), field	ug/L	400	0	710	300	--	50	460	0	0	270	140	--
Flow rate	mL/min	--	100	100	--	--	--	--	--	150	100	--	--
Oxidation reduction potential (ORP), field	millivolts	53	152	-49	11	--	101.1	-88.1	-150	-95	-63	43	--
pH, field	s.u.	7.31	7.08	7.86	7.35	--	7.02	7.59	7.41	7.43	7.27	7.13	--
Temperature, sample	Deg C	19.82	7.82	7.95	13.4	--	16.02	17.1	19.28	10.85	8.93	14	--
Turbidity, field	NTU	4.56	9.5	6.6	2.74	--	2.85	2.79	4.43	2.15	3.08	1.65	--
Volume purged	gal	--	1.62	1.83	--	--	--	--	--	0.45	0.25	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M
Sample Identification		GW-11223073-060321-DA-049	GW-11223073-060321-DA-050	GW-11223073-053122-AC-021	GW-12602792-051123-CM-004	GW-12602792-231213-JY-025	GW-12602792-240307-LK-019	GW-17358-052120-DR-028	GW-17358-052720-DR-028	GW-17358-102020-DR-001	GW-11223073-052821-DR-042	GW-11223073-053122-AC-025	GW-12602792-051223-LK-015
Sample Date		06/03/2021	06/03/2021	05/31/2022	05/11/2023	12/13/2023	03/07/2024	05/21/2020	05/27/2020	10/20/2020	05/28/2021	05/31/2022	05/12/2023
Sample Type			Duplicate										
Parameters	**Units**												
Gas													
Ethane	ug/L	--	--	0.51 J	--	0.32 J	1.0 U	--	--	--	--	0.82 J	--
Ethene	ug/L	--	--	1.0 U	--	1.0 U	1.0 U	--	--	--	--	2.0	--
Methane	ug/L	--	--	35	--	59	23	--	--	--	--	1200	--
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,1-Dichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	0.55 J	--	1.0 J+	1 U	0.87 J	5.0 U
1,1-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,2,4-Trichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1 U	1.0 U	2.0 U	2.0 U	--	--	1.0 U	--	3.3 U	1 U	2.0 U	10 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,2-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,2-Dichloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,2-Dichloropropane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.1	--	2.3 J	1	1.6	5.0 U
1,3-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
1,4-Dichlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	10 U	10 U	--	--	10 U	--	33 U	10 U	10 U	50 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	--	--	10 U	--	33 U	10 U	10 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	10 U	10 U	--	--	10 U	--	33 U	10 U	10 U	50 U
Acetone	ug/L	10 U	10 U	10 U	10 U	--	--	10 U	--	33 U	10 U	10 U	50 U
Benzene	ug/L	1 U	0.22 J	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Bromodichloromethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Bromoform	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Carbon disulfide	ug/L	5 U	5.0 U	1.0 U	1.0 U	--	--	5.0 U	--	17 U	5 U	1.0 U	5.0 U
Carbon tetrachloride	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Chlorobenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Chloroethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	49	--	69 J+	32	39	26
cis-1,3-Dichloropropene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Cyclohexane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Isopropyl benzene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
m&p-Xylenes	ug/L	2 U	--	--	--	--	--	--	--	--	2 U	--	--
Methyl acetate	ug/L	1 U	10 U	10 U	10 U	--	--	10 U	--	33 U	1 U	10 U	50 U
Methyl cyclohexane	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	5 U	1.0 U	5.0 U
Methylene chloride	ug/L	5 U	5.0 U	5.0 U	5.0 U	--	--	5.0 U	--	17 U	5 U	5.0 U	25 U
o-Xylene	ug/L	1 U	--	--	--	--	--	--	--	--	1 U	--	--
Styrene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Tetrachloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.3	1.0 U	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Toluene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	5.2	--	7.1	4	3.8	5.0 U
trans-1,3-Dichloropropene	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Trichloroethene	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	3.3 U	1 U	1.5	5.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	--	3.3 U	1 U	1.0 U	5.0 U

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M
Sample Identification		GW-11223073-060321-DA-049	GW-11223073-060321-DA-050	GW-11223073-053122-AC-021	GW-12602792-051123-CM-004	GW-12602792-231213-JY-025	GW-12602792-240307-LK-019	GW-17358-052120-DR-028	GW-17358-052720-DR-028	GW-17358-102020-DR-001	GW-11223073-052821-DR-042	GW-11223073-053122-AC-025	GW-12602792-051223-LK-015
Sample Date		06/03/2021	06/03/2021	05/31/2022	05/11/2023	12/13/2023	03/07/2024	05/21/2020	05/27/2020	10/20/2020	05/28/2021	05/31/2022	05/12/2023
Sample Type			Duplicate										
Parameters	**Units**												
Vinyl chloride	ug/L	9	6.5	3.5	2.6	2.0	1.7	**100**	--	**130**	**138**	**170**	**260**
Xylenes (total)	ug/L	--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	6.7 U	--	2.0 U	10 U
General Chemistry													
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	--	--	290000 B	--	300000 B	280000	--	--	--	--	330000 B	--
Nitrate (as N)	ug/L	--	--	100 U	--	100 U	100 U	--	--	--	--	41 JH	--
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	12 J	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	9.1 J	--	--	--	--
Sulfate	ug/L	--	--	91000	--	90000	86000	--	--	--	--	68000	--
Total organic carbon (TOC)	ug/L	--	--	9400	--	--	--	--	--	--	--	7400	--
Field Parameters													
Conductivity, field	mS/cm	0.57	0.57	0.73	--	--	--	1.42	1.39	--	1.08	0.843	--
Conductivity, field	uS/cm	--	--	--	1090	1000	727	--	--	--	--	--	797
Dissolved oxygen (DO), field	ug/L	0	0	380	0	50	370	140	60	--	220	30	170
Flow rate	mL/min	--	--	--	--	100	100	--	--	--	--	--	--
Oxidation reduction potential (ORP), field	millivolts	-104.9	-104.9	114	-76	-32	-1	-46	-23	--	-53	-78.1	-93
pH, field	s.u.	7.22	7.22	7.98	7.20	6.85	7.11	7.33	7.29	--	7.31	7.23	7.32
Temperature, sample	Deg C	15.36	15.36	17.6	16.90	10.7	8.52	10.6	11.5	--	11.2	15.3	19.07
Turbidity, field	NTU	4.37	4.37	4.87	4.76	1.52	1.63	3.18	4.33	--	0.77	0.59	4.42
Volume purged	gal	--	--	--	--	-0.04	0.2	--	--	--	--	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1229M	GHD-1229M	IG-1	IG-1	IG-1	IG-1	IG-1	IG-1	IG-1
Sample Identification		GW-12602792-231213-LK-028	GW-12602792-240305-LK-001	GW-17358-051420-DR-001	GW-17358-102220-DR-016	GW-11223073-060321-DA-051	GW-11223073-053122-AC-020	GW-12602792-051123-CM-002	GW-12602792-231213-LK-027	GW-12602792-240307-BB-023
Sample Date		12/13/2023	03/05/2024	05/14/2020	10/22/2020	06/03/2021	05/31/2022	05/11/2023	12/13/2023	03/07/2024
Sample Type										
Parameters	**Units**									
Gas										
Ethane	ug/L	1.3	1.0	--	--	--	1.0	--	1.0 U	1.0 U
Ethene	ug/L	3.7	1.3	--	--	--	1.9	--	1.0 U	1.0 U
Methane	ug/L	380	270	--	--	--	120	--	3.2	0.44 J
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,1-Dichloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,1-Dichloroethene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	1.0 U	1 U	2.0 U	2.0 U	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,2-Dichloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,2-Dichloropropane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	10	30	4.8 J	12	--	--
2-Hexanone	ug/L	--	--	--	10 U	10 U	10 U	10 U	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	1.0 J	10 U	10 U	10 U	--	--
Acetone	ug/L	--	--	--	10 U	12	10 U	10 U	--	--
Benzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Bromodichloromethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Bromoform	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	1.0 U	1 U	1.0 U	0.44 J	--	--
Carbon disulfide	ug/L	--	--	--	5.0 U	5 U	1.0 U	1.0 U	--	--
Carbon tetrachloride	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Chlorobenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Chloroethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
cis-1,2-Dichloroethene	ug/L	55	38	1.5	2.0	1	0.64 J	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Cyclohexane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Dibromochloromethane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Ethylbenzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Isopropyl benzene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
m&p-Xylenes	ug/L	--	--	--	--	2 U	--	--	--	--
Methyl acetate	ug/L	--	--	--	10 U	1 U	10 U	10 U	--	--
Methyl cyclohexane	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	1.0 U	5 U	1.0 U	1.0 U	--	--
Methylene chloride	ug/L	--	--	--	5.0 U	5 U	5.0 U	5.0 U	--	--
o-Xylene	ug/L	--	--	--	--	1 U	--	--	--	--
Styrene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Tetrachloroethene	ug/L	10 U	5.0 U	2.0	3.1	2	1.0	1.3	0.95 J	0.68 J
Toluene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	1.0	1 U	1.0 U	1.0 U	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Trichloroethene	ug/L	10 U	2.4 J	0.53 J	0.58 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	--	1.0 U	1 U	1.0 U	1.0 U	--	--

Table 2

Groundwater Analytical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		GHD-1229M	GHD-1229M	IG-1	IG-1	IG-1	IG-1	IG-1	IG-1	IG-1
Sample Identification		GW-12602792-231213-LK-028	GW-12602792-240305-LK-001	GW-17358-051420-DR-001	GW-17358-102220-DR-016	GW-11223073-060321-DA-051	GW-11223073-053122-AC-020	GW-12602792-051123-CM-002	GW-12602792-231213-LK-027	GW-12602792-240307-BB-023
Sample Date		12/13/2023	03/05/2024	05/14/2020	10/22/2020	06/03/2021	05/31/2022	05/11/2023	12/13/2023	03/07/2024
Sample Type										
Parameters	**Units**									
Vinyl chloride	ug/L	**190**	**140**	1.3	2.0	1	0.45 J	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	--	--	--	0.64 J	--	2.0 U	2.0 U	--	--
General Chemistry										
Alkalinity, bicarbonate	ug/L	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ug/L	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ug/L	310000 B	320000	--	--	--	93000 B	--	54000 B	36000
Nitrate (as N)	ug/L	500 U	500 U	--	--	--	100 U	--	1100	760
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--	--	--
Orthophosphate	ug/L	--	--	--	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--	--	--	--
Sulfate	ug/L	110000	110000	--	--	--	64000	--	43000	14000
Total organic carbon (TOC)	ug/L	--	--	--	--	--	20000	--	--	--
Field Parameters										
Conductivity, field	mS/cm	--	--	1.15	--	1.02	1.171	--	--	--
Conductivity, field	uS/cm	1430	1250	--	--	--	--	394	982	132
Dissolved oxygen (DO), field	ug/L	5120	510	280	--	150	360	0	0	1850
Flow rate	mL/min	150	100	--	--	--	--	--	150	100
Oxidation reduction potential (ORP), field	millivolts	-73	-79	39.1	--	-111.4	21.1	-129	-91	-188
pH, field	s.u.	6.65	7.09	**11.45**	--	**11.48**	**12.28**	**11.21**	6.92	**10.74**
Temperature, sample	Deg C	10.63	10.22	10.3	--	18	17.5	16.71	6.45	9.35
Turbidity, field	NTU	3.65	4.23	1.35	--	0.38	3.97	1.88	3.62	3.0
Volume purged	gal	0.44	0.8	--	--	--	--	--	0.42	0.27

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
J+ - Estimated concentration, result may be biased high.
B - Result detected in associated method blank.
H - Sample was prepped or analyzed beyond the specified holding time.
I - Value is EMPC (estimated maximum possible 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) Facility-Specific Background Concentrations (FSBCs).
(3) A hardness of 391.25 mg/L CaCo3 and pH of 7.25 was used, where required, to calculate a Facility-specific groundwater surface water interface protection (GSIP) criterion

Blanks - Not Available or Not Applicable
ID - Insufficient Data to develop criterion.
NLV - Hazardous substance is Not Likely to Volatilize under most conditions.

300[a] - boxed cell denotes exceedance of cleanup criteria screening level identified by superscript.

Table 3

Willow Run Creek Surface Water Results
Former Willow Run Powertrain Site
Ypsilanti, Michigan

	PCE	TCE	cDCE	VC		PCE	TCE	cDCE	VC		PCE	TCE	cDCE	VC
Unit	ug/L	ug/L	ug/L	ug/L		ug/L	ug/L	ug/L	ug/L		ug/L	ug/L	ug/L	ug/L
GSI (1)	60	200	620	13		60	200	620	13		60	200	620	13
Date	SW1	SW1	SW1	SW1		SW2	SW2	SW2	SW2		SW3	SW3	SW3	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 4

Tyler Dam Drain Summary Results
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Sample Location		EGLE (1)	SW-24-01	SW-24-02	SW-24-03	SW-24-04
Sample Identification			SW-24-01	SW-24-02	SW-24-03	SW-24-04
Sample Date		Groundwater Surface	03/01/2024	03/01/2024	03/01/2024	03/01/2024
Parameters	Units	Water Interface (2)				
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	89	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	78	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	330	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	740	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	130	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene	ug/L		5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	ug/L	99	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	17	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ID	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.7	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	13	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	360	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	230	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	45	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	28	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	17	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2200	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	ID	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ID	10 U	10 U	10 U	10 U
Acetone	ug/L	1700	10 U	10 U	10 U	10 U
Benzene	ug/L	200	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	ID	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	ID	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	ID	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	38	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	25	1.0 U	1.9	1.0 U	1.0 U
Chloroethane	ug/L	1100	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	620	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L		1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L		1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	ID	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	ID	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	18	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	28	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L		10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L		1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	7100	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1500	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	80	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	60	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	270	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1500	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L		1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	200	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L		1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	32	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	13	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	49	2.0 U	2.0 U	2.0 U	2.0 U

Notes:

U - Not detected at the associated reporting limit.

I - Value is EMPC (estimated maximum possible concentration)

(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria for residential and nonresidential category, rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended

Blanks - Not Available or Not Applicable

ID - Insufficient Data to develop criterion.

4.3[c] - boxed cell denotes exceedance of cleanup criteria screening level identified by superscript.

Table 6

Mann-Kendall Trend Results Summary
Former Willow Run Powertrain Site
Ypsilanti, MI

Monitoring Well	PCE	TCE	cDCE	VC
CRA-061M	Not tested (fewer than 4 detects)	No trend	Increasing trend	Increasing trend
CRA-106M	Decreasing trend	No trend	No trend	No trend
CRA-137M	Not tested (fewer than 4 detects)	No detected results	Not tested (fewer than 4 detects)	Not tested (fewer than 4 detects)
CRA-140M	No trend	Decreasing trend	No trend	Not tested (fewer than 4 detects)
CRA-267M	No trend	No trend	No trend	No trend
CRA-609M	Not tested (fewer than 4 detects)	No trend	No detected results	No detected results
CRA-711I	Not tested (fewer than 4 detects)	No detected results	No detected results	Decreasing trend
CRA-756M	Decreasing trend	Decreasing trend	No trend	No trend
CRA-806M	Not tested (fewer than 4 detects)	Decreasing trend	Not tested (fewer than 4 detects)	No trend
CRA-807M	Decreasing trend	Decreasing trend	No trend	No trend
CRA-858I	Not tested (fewer than 4 detects)	Not tested (fewer than 4 detects)	Not tested (fewer than 4 detects)	No detected results
GHD-859M	Decreasing trend	Decreasing trend	No trend	No detected results
GHD-1134M	No trend	No trend	No trend	No trend
GHD-1145M	Decreasing trend	Decreasing trend	No trend	Not tested (fewer than 4 detects)
GHD-1151M	No trend	No trend	No trend	Not tested (fewer than 4 detects)
GHD-1209M	No detected results	No detected results	Not tested (fewer than 4 detects)	No detected results
GHD-1220M	No trend	Decreasing trend	Decreasing trend	Decreasing trend
GHD-1223M	No trend	No trend	Decreasing trend	Increasing trend
GHD-1226M	Not tested (fewer than 4 detects)	No detected results	No detected results	Decreasing trend
GHD-1229M	No detected results	Not tested (fewer than 4 detects)	No trend	No trend
IG-1	Decreasing trend	Not tested (fewer than 4 detects)	No trend	No trend

Notes:

No Trend	Black text indicate data sets that show no concentration trend via Mann-Kendall test
Not Tested	Grey text indicate data sets that were not Mann-Kendall tested because of insufficient data or non-detect results
Decreasing	Blue text indicate data sets that show a decreasing concentration trend via the Mann-Kendall test
Increasing	Red text indicate data sets that show an increasing concentration trend via the Mann-Kendall test

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-061M	CRA-106M	CRA-106M	CRA-106M	CRA-106M
Sample Name:		GW-17358-080318-DR-067	GW-11223073-060421-DA-053	GW-11223073-060122-AC-035	GW-12602792-051223-LK-013	GW-12602792-231212-BB-017	GW-12602792-240306-LK-012	GW-11223073-060321-DA-043	GW-11223073-060321-DA-044	GW-11223073-053122-AC-017	GW-11223073-101322-MR-015
Sample Date:		08/03/2018	06/04/2021	06/01/2022	05/12/2023	12/12/2023	03/06/2024	06/03/2021	06/03/2021 Duplicate	05/31/2022	10/13/2022
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	1.0 U	--	1.4	--	1.0 U	1.3	--	--	22	--
Ethene	ug/L	1.0 U	--	0.29 J	--	0.26 J	0.48 J	--	--	16	--
Methane	ug/L	5.4	--	3300	--	410	800	--	--	7500	--
Field Parameters											
Temperature, sample	Deg C	22.56	14.28	16.6	14.24	10.11	9.17	16.2	16.2	19.3	19.5
Dissolved oxygen (DO), field	mg/L	0.51	0.14	0.57	0.20	9.70	0.33	0.61	0.61	0.52	1.83
Oxidation reduction potential (ORP), fi	millivolt	-17	-122.4	-247	-111	-25	-97	-28.6	-28.6	-228.8	-56.8
Turbidity, field	NTU	4.8	1.06	11.4	3.53	39.0	2.56	4.91	4.91	4.45	1.72
pH, field	s.u.	7.53	7.12	7.24	7.55	7.68	6.93	7.02	7.02	7.09	7.01
Conductivity, field	mS/cm	1.62	2.21	6.187	--	--	--	0.98	0.98	1.108	1.099
Conductivity, field	uS/cm	--	--	--	4439	1600	1120	--	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	400	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	5.0 U	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	310	--	330	370	--	--	340	--
Nitrate (as N)	ppm	1.5 J	--	0.50 U	--	1.0 U	0.50 U	--	--	0.10 U	--
Sulfate	ppm	190	--	65	--	170	47	--	--	21	--
Metals											
Iron	ug/L	140 J	960	2600	--	--	--	840	900	1100	--
Iron (dissolved)	ug/L	--	--	1700	--	--	--	--	--	1000	--
Manganese	ug/L	46 J	568	990	--	--	--	762	770	910	--
Manganese (dissolved)	ug/L	44	--	980	--	--	--	--	--	900	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-106M	CRA-106M	CRA-106M	CRA-106M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M	CRA-137M
Sample Name:		GW-12602792-051223-CM-018	GW-12602792-051223-CM-019	GW-12602792-231211-BB-004	GW-12602792-240305-LK-003	GW-17358-051420-DR-005	GW-11223073-060421-DA-054	GW-11223073-060122-AC-036	GW-12602792-051123-LK-009	GW-12602792-231212-BB-020	GW-12602792-240306-LK-013
Sample Date:		05/12/2023	05/12/2023 Duplicate	12/11/2023	03/05/2024	05/14/2020	06/04/2021	06/01/2022	05/11/2023	12/12/2023	03/06/2024
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	--	18	22	--	--	4.4	--	7.9	5.2
Ethene	ug/L	--	--	5.1	6.9	--	--	1.0 U	--	0.42 J	0.18 J
Methane	ug/L	--	--	4700	6100	--	--	2900	--	13000	10000
Field Parameters											
Temperature, sample	Deg C	19.67	19.67	9.22	13.26	10.15	16.92	15.8	14.43	10.84	9.07
Dissolved oxygen (DO), field	mg/L	0.00	0.00	0.0	0.66	0.15	0.01	0.36	0.30	0.97	0.25
Oxidation reduction potential (ORP), fi	millivolt	-127	-127	-70	-116	-244	-133.7	-13.4	-120	-84	-102
Turbidity, field	NTU	1.76	1.76	5.37	3.62	0.71	1.01	1.26	1.52	7.4	4.58
pH, field	s.u.	7.28	7.28	5.95	7.20	7.6	6.95	7.6	6.92	7.32	6.99
Conductivity, field	mS/cm	--	--	--	--	0.911	0.65	0.75	--	--	--
Conductivity, field	uS/cm	834	834	1330	949	--	--	--	1190	1220	962
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	330	360	--	--	270	--	450	410
Nitrate (as N)	ppm	--	--	0.10 U	0.50 U	--	--	0.10 U	--	0.50 U	0.10 U
Sulfate	ppm	--	--	6.6	8.6	--	--	2.8	--	0.41 J	3.6
Metals											
Iron	ug/L	1700	1800	--	--	2600	1740	3000	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	3000	--	--	--
Manganese	ug/L	840	810	--	--	230	348	300	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	310	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-140M	CRA-140M	CRA-140M	CRA-140M	CRA-140M	CRA-140M	CRA-267M	CRA-267M	CRA-267M	CRA-267M
Sample Name:		GW-17358-121719-DA-007	GW-11223073-060421-DA-055	GW-11223073-060122-AC-037	GW-12602792-051223-CM-016	GW-12602792-231211-BB-001	GW-12602792-240306-LK-010	GW-17358-080318-DR-064	GW-17358-121719-DA-008	GW-12602792-091923-LK-001	GW-12602792-231211-BB-002
Sample Date:		12/17/2019	06/04/2021	06/01/2022	05/12/2023	12/11/2023	03/06/2024	08/03/2018	12/17/2019	09/19/2023	12/11/2023
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	--	0.40 J	--	1.0 U	1.0 U	14	--	--	12
Ethene	ug/L	--	--	1.0 U	--	1.0 U	1.0 U	27	--	--	1.0 U
Methane	ug/L	--	--	38	--	14	34	4200	--	--	8100
Field Parameters											
Temperature, sample	Deg C	9.91	17.61	15.2	16.27	9.45	7.28	22.34	11.36	19.5	10.23
Dissolved oxygen (DO), field	mg/L	0.14	0.42	1.33	0.00	1.11	0.65	0.01	0	0.31	0.00
Oxidation reduction potential (ORP), fi	millivolt	143.6	-31.2	87	17	59	171	-174.9	-119	-131.4	-146
Turbidity, field	NTU	0.49	77.42	138	4.77	2.64	3.45	4.66	2.22	3.5	2.66
pH, field	s.u.	7.13	6.86	7.63	7.27	7.06	6.99	6.73	6.21	7.22	7.57
Conductivity, field	mS/cm	1.79	1.7	2.077	--	--	--	2.77	2.13	2210	--
Conductivity, field	uS/cm	--	--	--	2320	3500	2450	--	--	--	423
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	1100	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	50 U	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	310	--	320	310	--	--	--	370
Nitrate (as N)	ppm	--	--	1.2 H	--	1.0 U	1.0 U	0.10 UJ	--	--	1.0 U
Sulfate	ppm	--	--	480	--	750	750	16	--	--	14
Metals											
Iron	ug/L	--	390	3300	--	--	--	11000	--	--	--
Iron (dissolved)	ug/L	--	70	100	--	--	--	--	--	--	--
Manganese	ug/L	--	990	1200	--	--	--	1100	--	--	--
Manganese (dissolved)	ug/L	--	1000	1100	--	--	--	960	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-267M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M	CRA-609M
Sample Name:		GW-12602792-240305-BB-009	GW-17358-121719-DA-009	GW-17358-051420-DR-004	GW-11223073-071921-DA-001	GW-11223073-060222-AC-044	GW-11223073-060222-AC-045	GW-12602792-051123-LK-003	GW-12602792-231211-BB-003	GW-12602792-240307-LK-017	GW-12602792-240307-LK-018
Sample Date:		03/05/2024	12/17/2019	05/14/2020	07/19/2021	06/02/2022	06/02/2022 Duplicate	05/11/2023	12/11/2023	03/07/2024	03/07/2024 Duplicate
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	10	--	--	--	0.56 J	0.60 J	--	1.0 U	1.0 U	1.0 U
Ethene	ug/L	0.71 J	--	--	--	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U
Methane	ug/L	8800	--	--	--	130	130	--	2.2	67	69
Field Parameters											
Temperature, sample	Deg C	14.14	10.52	10.3	22	13.3	13.3	18.42	9.79	7.17	7.17
Dissolved oxygen (DO), field	mg/L	0.81	0.1	0.21	0.29	0.06	0.06	0.32	0.00	0.65	0.65
Oxidation reduction potential (ORP), fi	millivolt	-192	61.1	-4	-33.3	-14.3	-14.3	-43	51	148	148
Turbidity, field	NTU	4.1	1.01	0.58	--	1.37	1.37	2.96	1.44	4.75	4.75
pH, field	s.u.	7.99	7.06	7.53	7.04	7.18	7.18	7.03	7.27	7.04	7.04
Conductivity, field	mS/cm	--	1.81	1.73	1.24	1.122	1.122	--	--	--	--
Conductivity, field	uS/cm	1830	--	--	--	--	--	961	1440	708	708
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	340 B	--	--	--	310	300	--	390	300	300
Nitrate (as N)	ppm	0.50 U	--	--	--	0.10 U	0.10 U	--	0.16 J	0.10 U	0.10 U
Sulfate	ppm	8.3	--	--	--	250	250	--	90	57	57
Metals											
Iron	ug/L	--	--	66 J	1510	170	200	830	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	170	180	--	--	--	--
Manganese	ug/L	--	--	350	343	150	160	440	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	160	160	--	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-711I	CRA-711I	CRA-711I	CRA-711I	CRA-711I	CRA-711I	CRA-756M	CRA-756M	CRA-756M	CRA-756M
Sample Name:		GW-11223073-060321-DA-047	GW-11223073-060321-DA-048	GW-11223073-053122-AC-019	GW-12602792-051123-LK-001	GW-12602792-231213-LK-026	GW-12602792-240307-BB-022	GW-17358-073118-DR-021	GW-17358-051920-DR-014	GW-11223073-052821-DR-040	GW-11223073-053122-AC-015
Sample Date:		06/03/2021	06/03/2021 Duplicate	05/31/2022	05/11/2023	12/13/2023	03/07/2024	07/31/2018	05/19/2020	05/28/2021	05/31/2022
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	--	0.36 J	--	0.55 J	0.40 J	1.0 UJ	--	--	1.9
Ethene	ug/L	--	--	0.53 J	--	1.0 U	1.0 U	2.4 J	--	--	4.2
Methane	ug/L	--	--	13	--	190	150	45 J	--	--	2300
Field Parameters											
Temperature, sample	Deg C	15.2	15.2	15.4	17.17	9.29	10.14	24.03	12.3	12.7	17.3
Dissolved oxygen (DO), field	mg/L	0.12	0.12	0.39	0.38	0.00	1.12	0.23	0.04	0.29	0.63
Oxidation reduction potential (ORP), fi	millivolt	-97.8	-97.8	117.5	-136	-102	-51	-71	73	-9.1	-236.1
Turbidity, field	NTU	3.47	3.47	1.53	1.03	2.68	1.1	4.63	4.67	4.65	9.59
pH, field	s.u.	7.41	7.41	8.4	7.32	6.85	7.89	7.19	7.48	6.92	6.88
Conductivity, field	mS/cm	0.89	1.89	0.347	--	--	--	1.02	0.282	1.24	1.079
Conductivity, field	uS/cm	--	--	--	814	980	796	--	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	350	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	5.0 U	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	110 B	--	260 B	260	--	--	--	380
Nitrate (as N)	ppm	--	--	0.10 U	--	0.50 U	0.10 U	0.10 U	--	--	0.10 U
Sulfate	ppm	--	--	26	--	100	100	250	--	--	160
Metals											
Iron	ug/L	2820	2700	240	870	--	--	2200	290	970	4600
Iron (dissolved)	ug/L	--	--	200	--	--	--	--	--	--	3600
Manganese	ug/L	46	46	150	480	--	--	550	17 J	377	560
Manganese (dissolved)	ug/L	--	--	140	--	--	--	570	--	--	510

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-756M	CRA-757M	CRA-757M	CRA-806M	CRA-806M	CRA-806M
Sample Name:		GW-11223073-101322-MR-006	GW-11223073-101322-MR-007	GW-12602792-051223-DR-020	GW-12602792-231211-BB-007	GW-12602792-240305-BB-005	GW-17358-073118-DR-019	GW-17358-073118-DR-020	GW-17358-073118-DR-022	GW-17358-051920-DR-015	GW-11223073-052821-DR-041
Sample Date:		10/13/2022	10/13/2022 Duplicate	05/12/2023	12/11/2023	03/05/2024	07/31/2018	07/31/2018 Duplicate	07/31/2018	05/19/2020	05/28/2021
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	--	--	1.0 U	2.3	2.1 J	2.1	3.1	--	--
Ethene	ug/L	--	--	--	1.0 U	0.87 J	2.1 J	2.1	1.0 U	--	--
Methane	ug/L	--	--	--	34	1700	1600 J	1500	700	--	--
Field Parameters											
Temperature, sample	Deg C	18.4	18.4	13.2	9.93	11.93	23.73	23.73	22.07	12.3	13.1
Dissolved oxygen (DO), field	mg/L	0.84	0.84	0.40	0.0	1.51	0.34	0.34	0.17	0.06	0.2
Oxidation reduction potential (ORP), fi	millivolt	-95.7	-95.7	-76.3	-41	-156	-87	-87	-57	-100	-73.3
Turbidity, field	NTU	3.2	3.2	3.72	14.8	4.9	4.79	4.79	4.88	1.88	1.07
pH, field	s.u.	6.91	6.91	6.97	6.36	7.65	6.98	6.98	6.77	7.05	7.07
Conductivity, field	mS/cm	1.684	1.684	--	--	--	1.12	1.12	1.76	1.06	1.09
Conductivity, field	uS/cm	--	--	800	706	820	--	--	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	530 J	280 J	630	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	5.0 U	5.0 U	5.0 U	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	--	150	350	--	--	--	--	--
Nitrate (as N)	ppm	--	--	--	0.10 U	0.50 U	0.10 U	0.10 U	0.10 U	--	--
Sulfate	ppm	--	--	--	23	62	170	160	250	--	--
Metals											
Iron	ug/L	--	--	560	--	--	4000	4000	4400	3400	3180
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	420	--	--	700	690	390	460	520
Manganese (dissolved)	ug/L	--	--	--	--	--	730	710	420	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-807M	CRA-807M
Sample Name:		GW-11223073-053122-AC-016	GW-11223073-080922-DA-007	GW-11223073-080922-DA-008	GW-12602792-051223-DR-021	GW-12602792-231114-BB-014	GW-12602792-231211-BB-005	GW-12602792-231211-BB-006	GW-12602792-240305-LK-004	GW-17358-080218-DR-058	GW-11223073-051321-DR-034
Sample Date:		05/31/2022	08/09/2022	08/09/2022 Duplicate	05/12/2023	11/14/2023	12/11/2023	12/11/2023 Duplicate	03/05/2024	08/02/2018	05/13/2021
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	5.1	--	--	--	--	4.7	5.4	3.5	3.3	--
Ethene	ug/L	0.90 J	--	--	--	--	1.8	2.0	0.91 J	1.0 U	--
Methane	ug/L	1300	--	--	--	--	1300	1400	830	850	--
Field Parameters											
Temperature, sample	Deg C	19.5	23	23	13.8	16.5	8.20	8.20	14.29	21.5	11.72
Dissolved oxygen (DO), field	mg/L	0.55	0.02	0.02	0.28	0.94	0.73	0.73	1.13	0.03	1.24
Oxidation reduction potential (ORP), fi	millivolt	-266.1	-118.1	-118.1	-109.2	-77.3	-115	-115	-94	-52.2	-131
Turbidity, field	NTU	3.42	4.94	4.94	3.12	6.65	2.89	2.89	4.12	4.39	3.21
pH, field	s.u.	7.2	7.04	7.04	7.10	7.05	5.99	5.99	7.16	7.31	7.45
Conductivity, field	mS/cm	0.642	0.704	0.704	--	--	--	--	--	0.69	1.05
Conductivity, field	uS/cm	--	--	--	760	770	1370	1370	489	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	360	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	5.0 U	--
Alkalinity, total (as CaCO3)	ppm	310	--	--	--	--	290	290	240	--	--
Nitrate (as N)	ppm	0.10 U	--	--	--	--	0.10 U	0.10 U	0.50 U	0.10 UJ	--
Sulfate	ppm	24	--	--	--	--	19	18	22	37	--
Metals											
Iron	ug/L	1200	--	--	5000	--	--	--	--	580	--
Iron (dissolved)	ug/L	1200	--	--	--	--	--	--	--	--	--
Manganese	ug/L	420	--	--	330	--	--	--	--	370	--
Manganese (dissolved)	ug/L	490	--	--	--	--	--	--	--	350	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-807M	CRA-858I	CRA-858I	CRA-858I	CRA-858I	CRA-858I
Sample Name:		GW-11223073-060122-AC-034	GW-11223073-101322-MR-018	GW-12602792-051223-CM-014	GW-12602792-231213-JY-023	GW-12602792-240306-LK-011	GW-17358-080318-DR-061	GW-11223073-060421-DA-057	GW-11223073-060222-AC-046	GW-12602792-051123-CM-008	GW-12602792-231212-LK-018
Sample Date:		06/01/2022	10/13/2022	05/12/2023	12/13/2023	03/06/2024	08/03/2018	06/04/2021	06/02/2022	05/11/2023	12/12/2023
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	37	--	--	92	30	1.0 U	--	1.0 U	--	1.5
Ethene	ug/L	0.66 J	--	--	1.3	0.16 J	1.0 U	--	0.42 J	--	1.0 U
Methane	ug/L	5000	--	--	15000	3300	110	--	0.60 J	--	420
Field Parameters											
Temperature, sample	Deg C	14.7	17.6	17.01	10.5	7.79	16.33	15.91	14.6	15.72	13.17
Dissolved oxygen (DO), field	mg/L	0.69	1.21	0.00	0.14	3.88	0.23	3.29	1.34	0.00	0.00
Oxidation reduction potential (ORP), fi	millivolt	-255.3	-113.1	-144	-120	-27	-138	-7.2	22.1	-166	-162
Turbidity, field	NTU	3.64	4.21	3.45	1.85	4.98	38.2	2.14	2.71	0.95	1.58
pH, field	s.u.	7.24	7.02	7.34	6.76	6.98	7.65	7.93	7.98	7.59	7.54
Conductivity, field	mS/cm	0.843	3.618	--	--	--	1.104	0.45	0.341	--	--
Conductivity, field	uS/cm	--	--	1440	1910	481	--	--	--	1800	3300
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	310	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	5.0 U	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	470	--	--	490	200	--	--	130	--	250
Nitrate (as N)	ppm	0.10 U	--	--	0.50 U	0.33	0.10 UJ	--	0.10 U	--	1.0 U
Sulfate	ppm	15	--	--	3.9	4.9	100	--	37	--	35
Metals											
Iron	ug/L	3900	--	--	--	--	7100	80	100	4200	--
Iron (dissolved)	ug/L	2900	--	--	--	--	--	--	100 U	--	--
Manganese	ug/L	330	--	--	--	--	77	5 U	14	250	--
Manganese (dissolved)	ug/L	250	--	--	--	--	80	--	13	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		CRA-858I	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M	GHD-859M
Sample Name:		GW-12602792-240306-BB-016	GW-17358-080318-DR-062	GW-17358-080318-DR-063	GW-11223073-051321-DR-038	GW-11223073-051321-DR-039	GW-11223073-060122-AC-027	GW-11223073-060122-AC-028	GW-12602792-051123-LK-007	GW-12602792-231213-BB-029	GW-12602792-231213-BB-030
Sample Date:		03/06/2024	08/03/2018	08/03/2018 Duplicate	05/13/2021	05/13/2021 Duplicate	06/01/2022	06/01/2022 Duplicate	05/11/2023	12/13/2023	12/13/2023 Duplicate
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	1.5	1.0 U	1.0 U	--	--	17	19	--	1.0 U	1.0 U
Ethene	ug/L	1.0 U	1.0 U	1.0 U	--	--	0.71 J	0.70 J	--	1.0 U	1.0 U
Methane	ug/L	330	90	87	--	--	2000	2400	--	0.34 J	0.34 J
Field Parameters											
Temperature, sample	Deg C	11.40	21.62	21.62	13.72	13.72	17.2	17.2	25.45	10.73	10.73
Dissolved oxygen (DO), field	mg/L	0.54	0.39	0.39	1.46	1.46	0.8	0.8	0.46	0.00	0.00
Oxidation reduction potential (ORP), fi	millivolt	-42	26	26	74	74	76.7	76.7	87	136	136
Turbidity, field	NTU	3.4	2.15	2.15	1.09	1.09	2.02	2.02	1.56	1.7	1.7
pH, field	s.u.	7.73	7.55	7.55	7.4	7.4	7.23	7.23	7.15	6.73	6.73
Conductivity, field	mS/cm	--	1.76	1.76	1.1	1.1	0.971	0.971	--	--	--
Conductivity, field	uS/cm	2050	--	--	--	--	--	--	774	1010	1010
General Chemistry											
Alkalinity, bicarbonate	ppm	--	510	520	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	5.0 U	5.0 U	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	250	--	--	--	--	370	360	--	280 B	280 B
Nitrate (as N)	ppm	0.10 U	0.34 J	0.34 J	--	--	0.87 H	0.84 H	--	0.60	0.64
Sulfate	ppm	34	79	79	--	--	65	64	--	77	77
Metals											
Iron	ug/L	--	120 J	200 U	--	--	100 U	100 U	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	100 U	100 U	--	--	--
Manganese	ug/L	--	45 J	37 J	--	--	490	360	--	--	--
Manganese (dissolved)	ug/L	--	35	37	--	--	280	330	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-859M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M	GHD-1134M
Sample Name:		GW-12602792-240306-BB-014	GW-17358-080118-DR-041	GW-17358-051420-DR-003	GW-17358-052220-DR-003	GW-11223073-051321-DR-035	GW-11223073-060122-AC-032	GW-12602792-051223-CM-012	GW-12602792-231213-JY-024	GW-12602792-240305-BB-006	GW-12602792-240305-BB-007
Sample Date:		03/06/2024	08/01/2018	05/14/2020	05/22/2020	05/13/2021	06/01/2022	05/12/2023	12/13/2023	03/05/2024	03/05/2024 Duplicate
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	1.0 U	1.0 UJ	--	--	--	33	--	57	55	58
Ethene	ug/L	1.0 U	4.9 J	--	--	--	12	--	40	21	21
Methane	ug/L	0.81 J	3200 J	--	--	--	13000	--	16000	17000	18000
Field Parameters											
Temperature, sample	Deg C	9.20	21.45	10.5	--	14.09	17.4	20.41	10.2	13.72	13.72
Dissolved oxygen (DO), field	mg/L	0.67	1.32	0.13	--	0.65	0.63	0.00	0.45	3.77	3.77
Oxidation reduction potential (ORP), fi	millivolt	182	8	-98.6	--	-101	-266	-130	-112	-132	-132
Turbidity, field	NTU	3.9	46.4	13.7	14	4.62	12.01	4.56	1.1	14.6	14.6
pH, field	s.u.	7.70	7.01	6.92	--	7.47	6.81	7.09	6.70	7.40	7.40
Conductivity, field	mS/cm	--	1.232	1.02	--	1.07	0.968	--	--	--	--
Conductivity, field	uS/cm	762	--	--	--	--	--	1310	2140	1230	1230
General Chemistry											
Alkalinity, bicarbonate	ppm	--	460	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	5.0 U	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	270	--	--	--	--	470	--	480	490	500
Nitrate (as N)	ppm	0.98	0.20	--	--	--	0.10 U	--	0.50 U	0.50 U	0.50 U
Sulfate	ppm	83	56	--	--	--	3.4	--	2.5	1.4	1.4
Metals											
Iron	ug/L	--	2700	--	9200	--	17000	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	7500	--	14000	--	--	--	--
Manganese	ug/L	--	310	--	440	--	340	--	--	--	--
Manganese (dissolved)	ug/L	--	290	--	470	--	330	--	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1145M	GHD-1151M	GHD-1151M	GHD-1151M
Sample Name:		GW-17358-080318-DR-060	GW-17358-051420-DR-006	GW-11223073-051321-DR-037	GW-11223073-060122-AC-031	GW-12602792-051123-CM-010	GW-12602792-231213-BB-031	GW-12602792-240306-BB-015	GW-17358-080118-DR-040	GW-11223073-051321-DR-036	GW-11223073-060122-AC-033
Sample Date:		08/03/2018	05/14/2020	05/13/2021	06/01/2022	05/11/2023	12/13/2023	03/06/2024	08/01/2018	05/13/2021	06/01/2022
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	1.0 U	--	--	0.41 J	--	1.0 U	1.0 U	1.0 UJ	--	23
Ethene	ug/L	1.0 U	--	--	0.40 J	--	2.7	2.7	7.7 J	--	7.0
Methane	ug/L	35	--	--	7.8	--	13	13	4200 J	--	11000
Field Parameters											
Temperature, sample	Deg C	19.4	10.64	14.02	20.6	14.50	8.78	9.43	21.69	14.69	17
Dissolved oxygen (DO), field	mg/L	0.3	0.17	0.58	1.27	0.75	0.00	0.56	0.03	0.65	0.62
Oxidation reduction potential (ORP), fi	millivolt	55	-101	9	36.7	-23	61	185	-30.9	-71	1.5
Turbidity, field	NTU	1.72	0.41	1.46	1.9	0.81	1.6	1.2	3.44	2.72	4.7
pH, field	s.u.	7.16	7.57	7.36	7.27	7.35	6.93	7.69	6.88	7.45	6.98
Conductivity, field	mS/cm	1.15	1.044	0.855	0.696	--	--	--	1.4	0.826	0.73
Conductivity, field	uS/cm	--	--	--	--	1370	1320	817	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	360	--	--	--	--	--	--	600	--	--
Alkalinity, carbonate	ppm	5.0 U	--	--	--	--	--	--	5.0 U	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	--	230	--	280 B	290	--	--	420
Nitrate (as N)	ppm	0.021 J	--	--	0.42 H	--	0.50 U	0.68	8.0	--	0.14 H
Sulfate	ppm	88	--	--	72	--	130	110	74	--	12
Metals											
Iron	ug/L	190 J	61 J	--	120	--	--	--	220	--	3700
Iron (dissolved)	ug/L	--	--	--	100 U	--	--	--	--	--	3400
Manganese	ug/L	690	340	--	290	--	--	--	740	--	390
Manganese (dissolved)	ug/L	520	--	--	250	--	--	--	650	--	400

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-1151M	GHD-1151M	GHD-1151M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1209M	GHD-1220M	GHD-1220M	GHD-1220M
Sample Name:		GW-12602792-051223-LK-011	GW-12602792-231213-JY-022	GW-12602792-240305-BB-008	GW-11223073-053122-AC-018	GW-12602792-051223-LK-017	GW-12602792-231212-JY-019	GW-12602792-240305-LK-002	GW-17358-051420-DR-002	GW-11223073-060321-DA-045	GW-11223073-060321-DA-046
Sample Date:		05/12/2023	12/13/2023	03/05/2024	05/31/2022	05/12/2023	12/12/2023	03/05/2024	05/14/2020	06/03/2021	06/03/2021 Duplicate
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	27	33	0.78 J	--	0.30 J	1.1	--	--	--
Ethene	ug/L	--	24	15	1.0 U	--	1.0 U	1.0 U	--	--	--
Methane	ug/L	--	13000	13000	250	--	1300	1600	--	--	--
Field Parameters											
Temperature, sample	Deg C	19.44	11.0	14.81	17.6	20.26	10.2	12.30	10.6	16.34	16.34
Dissolved oxygen (DO), field	mg/L	0.28	0.59	3.21	0.44	0.18	4.59	3.31	0.26	0.74	0.74
Oxidation reduction potential (ORP), fi	millivolt	-110	-104	-133	157	-109	-78	87	111	186.9	186.9
Turbidity, field	NTU	2.17	7.95	9.2	2.47	2.84	1.91	4.65	4.9	103.5	103.5
pH, field	s.u.	6.96	6.59	7.44	7.64	7.44	8.41	9.22	7.56	7.25	7.25
Conductivity, field	mS/cm	--	--	--	0.735	--	--	--	1.37	1.26	1.26
Conductivity, field	uS/cm	1110	1520	969	--	755	514	245	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	490	480 B	310	--	200	140	--	--	--
Nitrate (as N)	ppm	--	0.50 U	0.50 U	0.10 U	--	0.10 U	0.54	--	--	--
Sulfate	ppm	--	5.7	2.2	21	--	1.4	4.9	--	--	--
Metals											
Iron	ug/L	--	--	--	2200	--	--	--	700	2220	3200
Iron (dissolved)	ug/L	--	--	--	2300	--	--	--	--	280	390
Manganese	ug/L	--	--	--	160	--	--	--	390	532	580
Manganese (dissolved)	ug/L	--	--	--	170	--	--	--	--	490	530

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-1220M	GHD-1220M	GHD-1220M	GHD-1220M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M	GHD-1223M
Sample Name:		GW-11223073-060122-AC-029	GW-12602792-051123-LK-005	GW-12602792-231213-BB-032	GW-12602792-240307-BB-021	GW-17358-052620-DR-031	GW-11223073-060321-DA-052	GW-11223073-060122-AC-030	GW-12602792-051123-CM-006	GW-12602792-231212-LK-021	GW-12602792-240307-LK-020
Sample Date:		06/01/2022	05/11/2023	12/13/2023	03/07/2024	05/26/2020	06/03/2021	06/01/2022	05/11/2023	12/12/2023	03/07/2024
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	0.40 J	--	1.8	0.91 J	--	--	0.31 J	--	0.31 J	1.0 U
Ethene	ug/L	0.82 J	--	1.0 U	1.0 U	--	--	0.28 J	--	1.3	0.70 J
Methane	ug/L	520	--	2.8	7.0	--	--	230	--	680	390
Field Parameters											
Temperature, sample	Deg C	19.3	19.82	7.82	7.95	13.4	16.02	17.1	19.28	10.85	8.93
Dissolved oxygen (DO), field	mg/L	0.97	0.40	0.00	0.71	0.3	0.05	0.46	0.00	0.00	0.27
Oxidation reduction potential (ORP), fi	millivolt	58.6	53	152	-49	11	101.1	-88.1	-150	-95	-63
Turbidity, field	NTU	21.6	4.56	9.5	6.6	2.74	2.85	2.79	4.43	2.15	3.08
pH, field	s.u.	7.74	7.31	7.08	7.86	7.35	7.02	7.59	7.41	7.43	7.27
Conductivity, field	mS/cm	0.64	--	--	--	0.98	0.79	0.815	--	--	--
Conductivity, field	uS/cm	--	652	1100	607	--	--	--	985	1500	953
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	240	--	260 B	240	--	--	250	--	270	290
Nitrate (as N)	ppm	0.51 H	--	0.50 U	0.52	--	--	0.092 JH	--	0.50 U	0.10 U
Sulfate	ppm	58	--	100	74	--	--	150	--	180	160
Metals											
Iron	ug/L	2300	--	--	--	160 J	290	1300	--	--	--
Iron (dissolved)	ug/L	140	--	--	--	--	--	1100	--	--	--
Manganese	ug/L	260	--	--	--	490	404	840	--	--	--
Manganese (dissolved)	ug/L	51	--	--	--	--	--	720	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1226M	GHD-1229M	GHD-1229M	GHD-1229M
Sample Name:		GW-17358-052620-DR-030	GW-11223073-060321-DA-049	GW-11223073-060321-DA-050	GW-11223073-053122-AC-021	GW-12602792-051123-CM-004	GW-12602792-231213-JY-025	GW-12602792-240307-LK-019	GW-17358-052120-DR-028	GW-17358-052720-DR-028	GW-11223073-052821-DR-042
Sample Date:		05/26/2020	06/03/2021	06/03/2021 Duplicate	05/31/2022	05/11/2023	12/13/2023	03/07/2024	05/21/2020	05/27/2020	05/28/2021
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	--	--	--	0.51 J	--	0.32 J	1.0 U	--	--	--
Ethene	ug/L	--	--	--	1.0 U	--	1.0 U	1.0 U	--	--	--
Methane	ug/L	--	--	--	35	--	59	23	--	--	--
Field Parameters											
Temperature, sample	Deg C	14	15.36	15.36	17.6	16.90	10.7	8.52	10.6	11.5	11.2
Dissolved oxygen (DO), field	mg/L	0.14	0	0	0.38	0	0.05	0.37	0.14	0.06	0.22
Oxidation reduction potential (ORP), fi	millivolt	43	-104.9	-104.9	114	-76	-32	-1	-46	-23	-53
Turbidity, field	NTU	1.65	4.37	4.37	4.87	4.76	1.52	1.63	3.18	4.33	0.77
pH, field	s.u.	7.13	7.22	7.22	7.98	7.20	6.85	7.11	7.33	7.29	7.31
Conductivity, field	mS/cm	0.7	0.57	0.57	0.73	--	--	--	1.42	1.39	1.08
Conductivity, field	uS/cm	--	--	--	--	1090	1000	727	--	--	--
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	--	--	--	290 B	--	300 B	280	--	--	--
Nitrate (as N)	ppm	--	--	--	0.10 U	--	0.10 U	0.10 U	--	--	--
Sulfate	ppm	--	--	--	91	--	90	86	--	--	--
Metals											
Iron	ug/L	140 J	400	360	440	960	--	--	1200	--	480
Iron (dissolved)	ug/L	--	--	--	240	--	--	--	--	--	--
Manganese	ug/L	370	402	400	510	1600	--	--	370	--	369
Manganese (dissolved)	ug/L	--	--	--	570	--	--	--	--	--	--

Table 11

Groundwater Geochemical Results Summary
Former Willow Run Powertrain Site
Ypsilanti, Michigan

Location ID:		GHD-1229M	GHD-1229M	GHD-1229M	GHD-1229M	IG-1	IG-1	IG-1	IG-1	IG-1	IG-1
Sample Name:		GW-11223073-053122-AC-025	GW-12602792-051223-LK-015	GW-12602792-231213-LK-028	GW-12602792-240305-LK-001	GW-17358-051420-DR-001	GW-11223073-060321-DA-051	GW-11223073-053122-AC-020	GW-12602792-051123-CM-002	GW-12602792-231213-LK-027	GW-12602792-240307-BB-023
Sample Date:		05/31/2022	05/12/2023	12/13/2023	03/05/2024	05/14/2020	06/03/2021	05/31/2022	05/11/2023	12/13/2023	03/07/2024
Parameter	**Unit**										
Dissolved Gases											
Ethane	ug/L	0.82 J	--	1.3	1.0	--	--	1.0	--	1.0 U	1.0 U
Ethene	ug/L	2.0	--	3.7	1.3	--	--	1.9	--	1.0 U	1.0 U
Methane	ug/L	1200	--	380	270	--	--	120	--	3.2	0.44 J
Field Parameters											
Temperature, sample	Deg C	15.3	19.07	10.63	10.22	10.3	18	17.5	16.71	6.45	9.35
Dissolved oxygen (DO), field	mg/L	0.03	0.17	5.12	0.51	0.28	0.15	0.36	0	0.00	1.85
Oxidation reduction potential (ORP), fi	millivolt	-78.1	-93	-73	-79	39.1	-111.4	21.1	-129	-91	-188
Turbidity, field	NTU	0.59	4.42	3.65	4.23	1.35	0.38	3.97	1.88	3.62	3.0
pH, field	s.u.	7.23	7.32	6.65	7.09	11.45	11.48	12.28	11.21	6.92	10.74
Conductivity, field	mS/cm	0.843	--	--	--	1.15	1.02	1.171	--	--	--
Conductivity, field	uS/cm	--	797	1430	1250	--	--	--	394	982	132
General Chemistry											
Alkalinity, bicarbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate	ppm	--	--	--	--	--	--	--	--	--	--
Alkalinity, total (as CaCO3)	ppm	330 B	--	310 B	320	--	--	93 B	--	54 B	36
Nitrate (as N)	ppm	0.041 JH	--	0.50 U	0.50 U	--	--	0.10 U	--	1.1	0.76
Sulfate	ppm	68	--	110	110	--	--	64	--	43	14
Metals											
Iron	ug/L	450	950	--	--	--	20 U	49 J	83 U	--	--
Iron (dissolved)	ug/L	410	--	--	--	--	--	100 U	--	--	--
Manganese	ug/L	430	390	--	--	--	5 U	10 U	2.6 U	--	--
Manganese (dissolved)	ug/L	420	--	--	--	--	--	10 U	--	--	--

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
J+ - Estimated concentration, result may be biased high.
B - Result detected in associated method blank.
H - Sample was prepped or analyzed beyond the specified holding time.
I - Value is EMPC (estimated maximum possible concentration)

Table 12

Recommended PCE Area Monitoring Locations
Former Willow Run Powertrain Site
Ypsilanti, MI

Well Locations	Groundwater Zone	Groundwater Analysis	Ground Water Levels	NAPL
CRA-104M	Shallow	N/A	Yes	No
CRA-105M	Shallow	N/A	Yes	No
CRA-107M	Shallow	N/A	Yes	No
CRA-140M	Shallow	N/A	Yes	No
CRA-267M	Shallow	N/A	Yes	No
CRA-310M	Shallow	N/A	Yes	No
CRA-756M	Shallow	N/A	Yes	No
CRA-757M	Shallow	N/A	Yes	No
GHD-1210M	Shallow	N/A	Yes	No
GHD-1232M	Shallow	N/A	Yes	No
GHD-1233M	Shallow	N/A	Yes	No
GHD-1234M	Shallow	N/A	Yes	No
GHD-1243M	Shallow	N/A	Yes	No
GHD-1244M	Shallow	N/A	Yes	No
IG-2	Shallow	N/A	Yes	No
MW-6	Shallow	N/A	Yes	No
MW-9	Shallow	N/A	Yes	No
WCAA-MW14-2017	Shallow	N/A	Yes	No
CRA-061M	Shallow	Select VOCs	Yes	No
CRA-106M	Shallow	Select VOCs	Yes	No
CRA-137M	Shallow	Select VOCs	Yes	No
CRA-609M	Shallow	Select VOCs	Yes	No
CRA-806M	Shallow	Select VOCs	Yes	No
CRA-807M	Shallow	Select VOCs	Yes	No
GHD-1134M	Shallow	Select VOCs	Yes	No
GHD-1145M	Shallow	Select VOCs	Yes	No
GHD-1151M	Shallow	Select VOCs	Yes	DNAPL
GHD-1209M	Shallow	Select VOCs	Yes	No
GHD-1220M	Shallow	Select VOCs	Yes	No
GHD-1223M	Shallow	Select VOCs	Yes	No
GHD-1226M	Shallow	Select VOCs	Yes	No
GHD-1229M	Shallow	Select VOCs	Yes	No
GHD-859M	Shallow	Select VOCs	Yes	No
IG-1	Shallow	Select VOCs	Yes	No

Notes:
Standard QA/QC will be completed as follows – duplicate samples and MS/MSD samples every 1 in 20.
Select VOCs include: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, vinyl chloride
MNA Parameters include: ethene, ethane, methane, nitrate, sulfate, and alkalinity

Figures

0 900 1800 ft

1" = 1800 ft

N

GHD

FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

Project No. **12602792**
Date **September 2024**

SITE LOCATION

FIGURE 1

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D102_DE006.dwg
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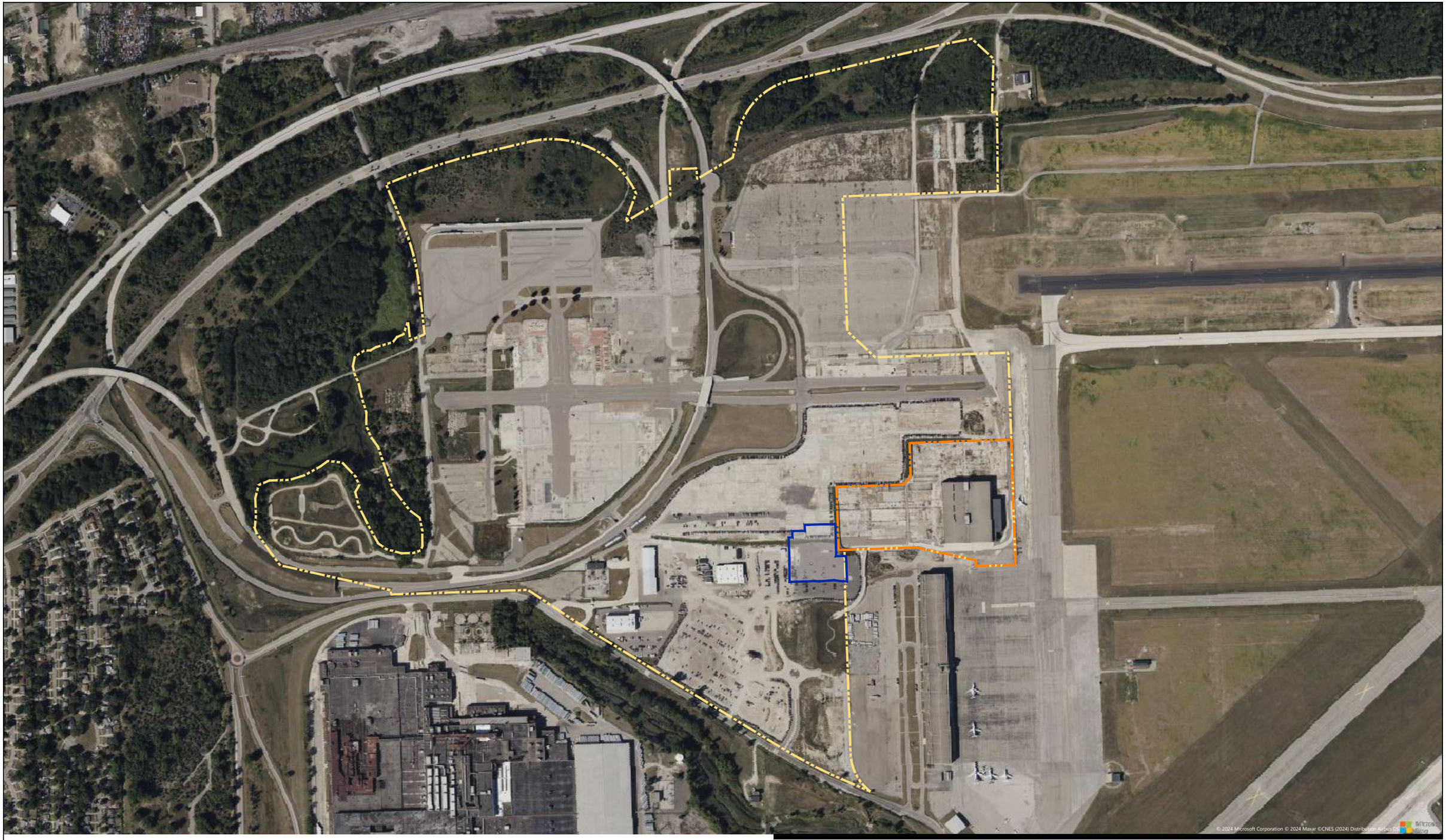

LEGEND

AMERICAN CENTER FOR MOBILITY PROPERTY

YANKEE AIR MUSEUM PROPERTY

PCE RESTRICTION AREA

0 300 600 ft

1" = 600 ft

Coordinate System: MI83-SIF

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PROPERTY BOUNDARIES & PCE RESTRICTION AREA

Project No. **12602792**
Date **September 2024**

FIGURE 2

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D108_DE006.dwg
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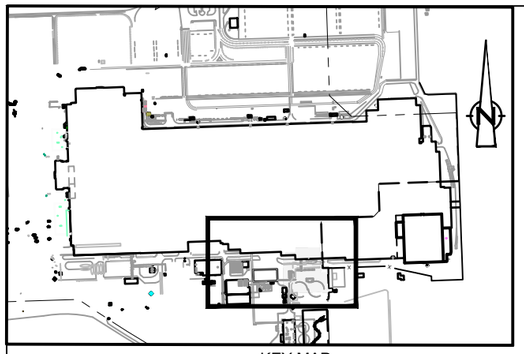

KEY MAP

FORMER WILLOW RUN POWERTRAIN PLANT

TRUCK WELL

POWERHOUSE

PIPING TRESTLE

COAL CONV.

WASTEWATER TREATMENT PLANT

COOLING TOWER

P.H. STORAGE

WASTEWATER TREATMENT PLANT

FORMER PLANT ENGINEERING BUILDING 19 FOOTPRINT

BUILDING 19 SUBSTATION

WASTEWATER TREATMENT TANK

WASTEWATER TREATMENT TANK

CORROSION PLATE NONERATOR

TRUCK WELL

PUMP HOUSE

WAYNE COUNTY AIRPORT

LEGEND

FENCE (AS SURVEYED 7-20-2016)

PCE RESTRICTION AREA

0 40 80 ft

1" = 80 ft

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PCE AREA & HISTORICAL SITE FEATURES

Project No. **12602792**
Date **September 2024**

FIGURE 3

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D110_DE006.dwg
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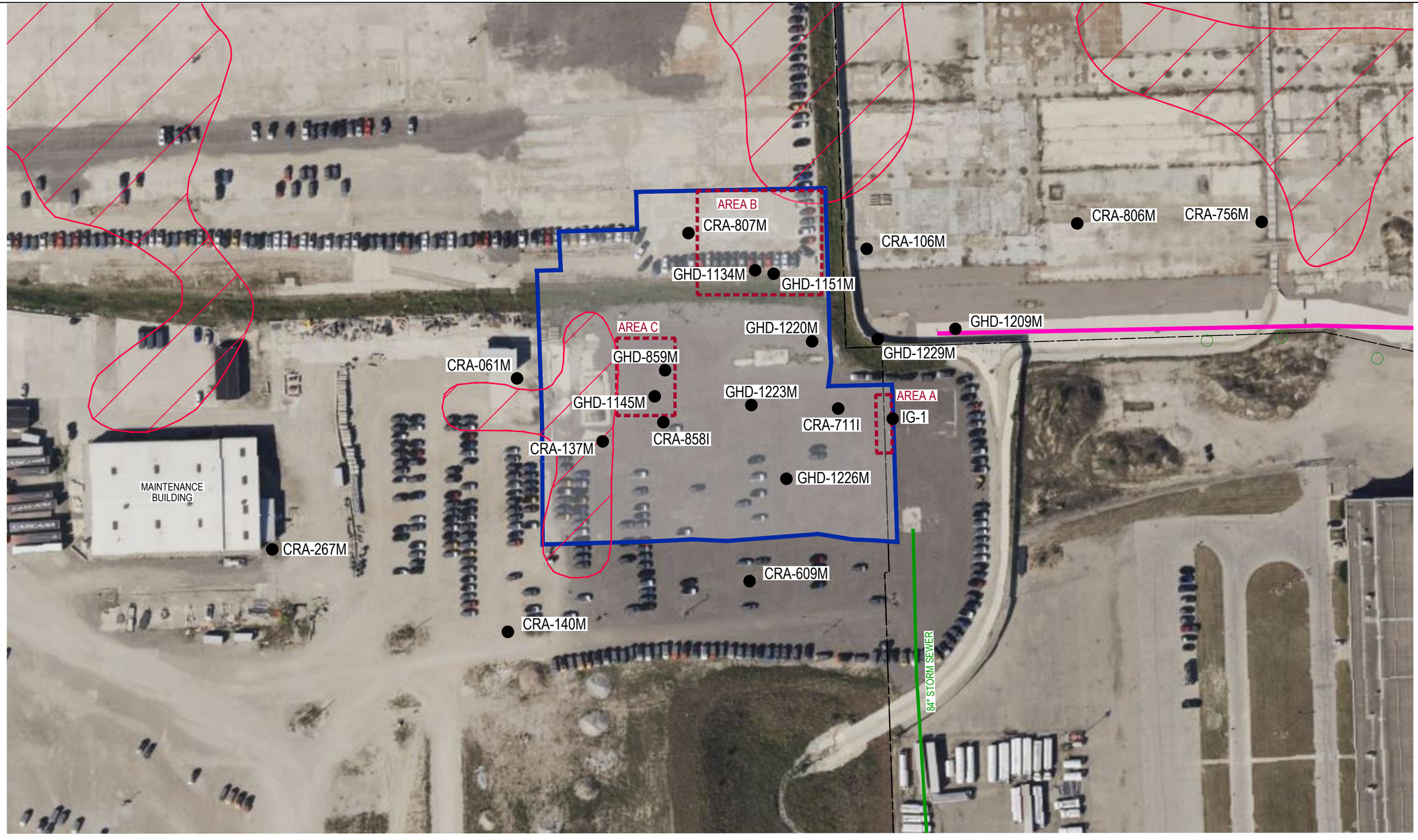

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE EXTENTS OF LNAPL
- STORM WATER MAIN LINES - ACTIVE
- FRENCH DRAIN
- PCE AREA MONITORING WELL LOCATION
- ESTIMATED EXTENT OF SOURCE AREAS
- PCE RESTRICTION AREA

0 50 100 ft

1" = 100 ft

Coordinate System:
MICHIGAN SOUTH
INTERNATIONAL FEET NAD83

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PCE AREA MONITORING NETWORK

Project No. **12602792**
Date **September 2024**

FIGURE 4

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D104_DE006.dwg
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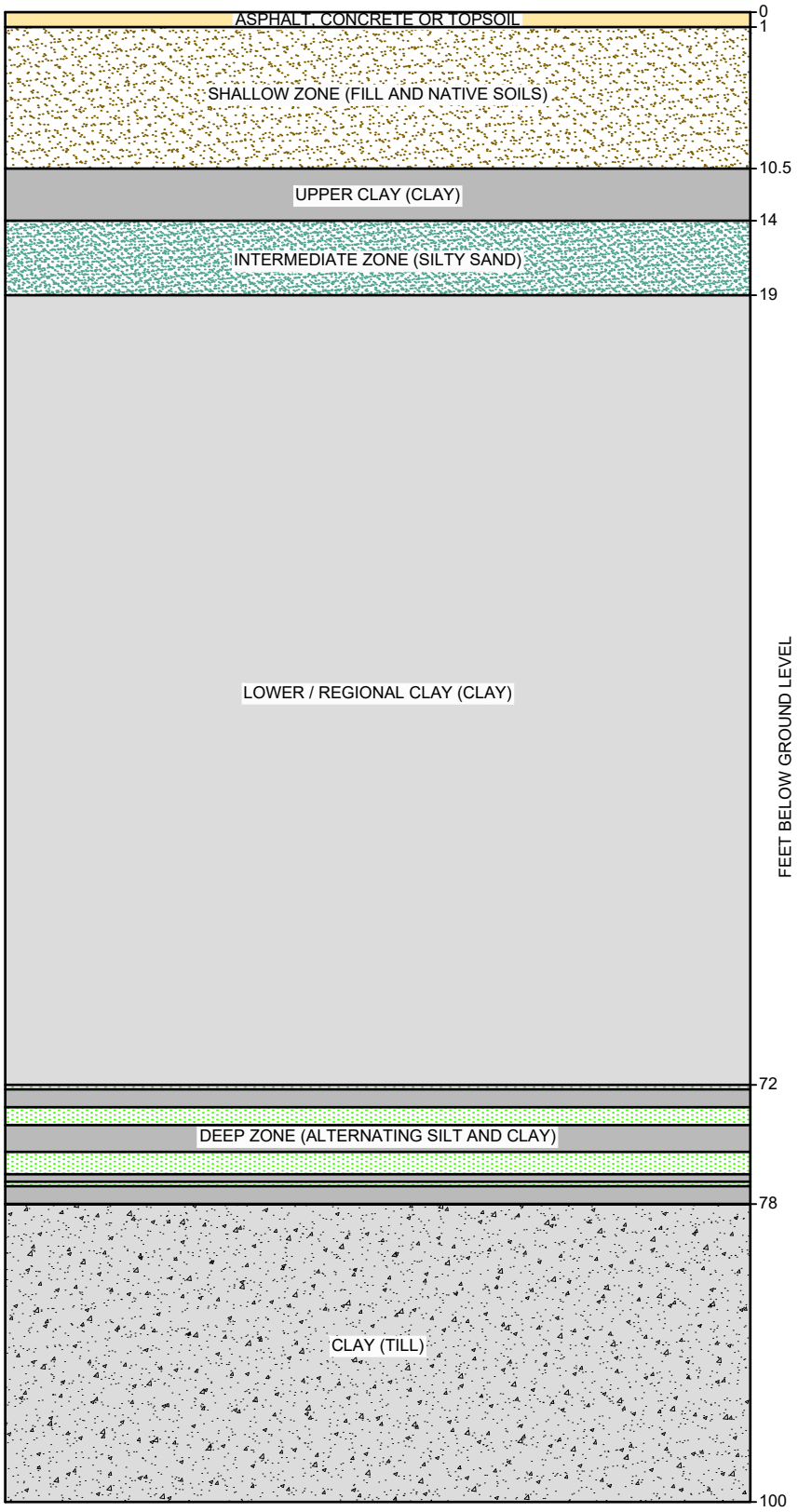

FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

Project No. **12602792**
Date **September 2024**

SCHEMATIC GEOLOGIC CROSS-SECTION

FIGURE 5

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D105_DE006.dwg
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AREA B
AREA C
AREA A
CRA-807M
GHD-1134M
GHD-1151M
CRA-106M
CRA-806M
CRA-756M
GHD-1209M
GHD-1229M
GHD-1220M
GHD-859M
CRA-061M
GHD-1145M
CRA-858I
GHD-1223M
CRA-711I
IG-1
CRA-137M
GHD-1226M
MAINTENANCE BUILDING
CRA-267M
CRA-609M
CRA-140M
MH 70
MH 80
STMH A2
STMH A3
STMH A1
84" STORM SEWER

LEGEND

- PROPERTY BOUNDARY
- HISTORICAL STORM SEWER FEEDER LINES
- HISTORICAL STORM WATER MAIN LINES
- HISTORICAL SANITARY SEWER
- HISTORICAL ELECTRICAL DUCT SYSTEM
- HISTORICAL WATER LINES
- AIRPORT MOLE HOLE DRAINAGE (BASED ON UNDATED DRAWINGS FROM AIRPORT AND FOUND STRUCTURES)
- PCE AREA GROUNDWATER MONITORING LOCATIONS
- STORM WATER MAIN LINES - ACTIVE
- FIRE WATER MAIN
- SANITARY - ACTIVE
- EAST SIDE STORM DRAIN
- FRENCH DRAIN
- ESTIMATED EXTENT OF SOURCE AREAS
- BULKHEAD

NOTE: ALL UTILITY FEATURE LOCATIONS, ACTIVE AND HISTORICAL, ARE ESTIMATED.

0 50 100 ft
1" = 100 ft

Coordinate System:
MICHIGAN SOUTH
INTERNATIONAL FEET NAD83

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

HISTORICAL & CURRENT SUBSURFACE UTILITIES

Project No. **12602792**
Date **September 2024**

FIGURE 6

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D101_DE006.dwg
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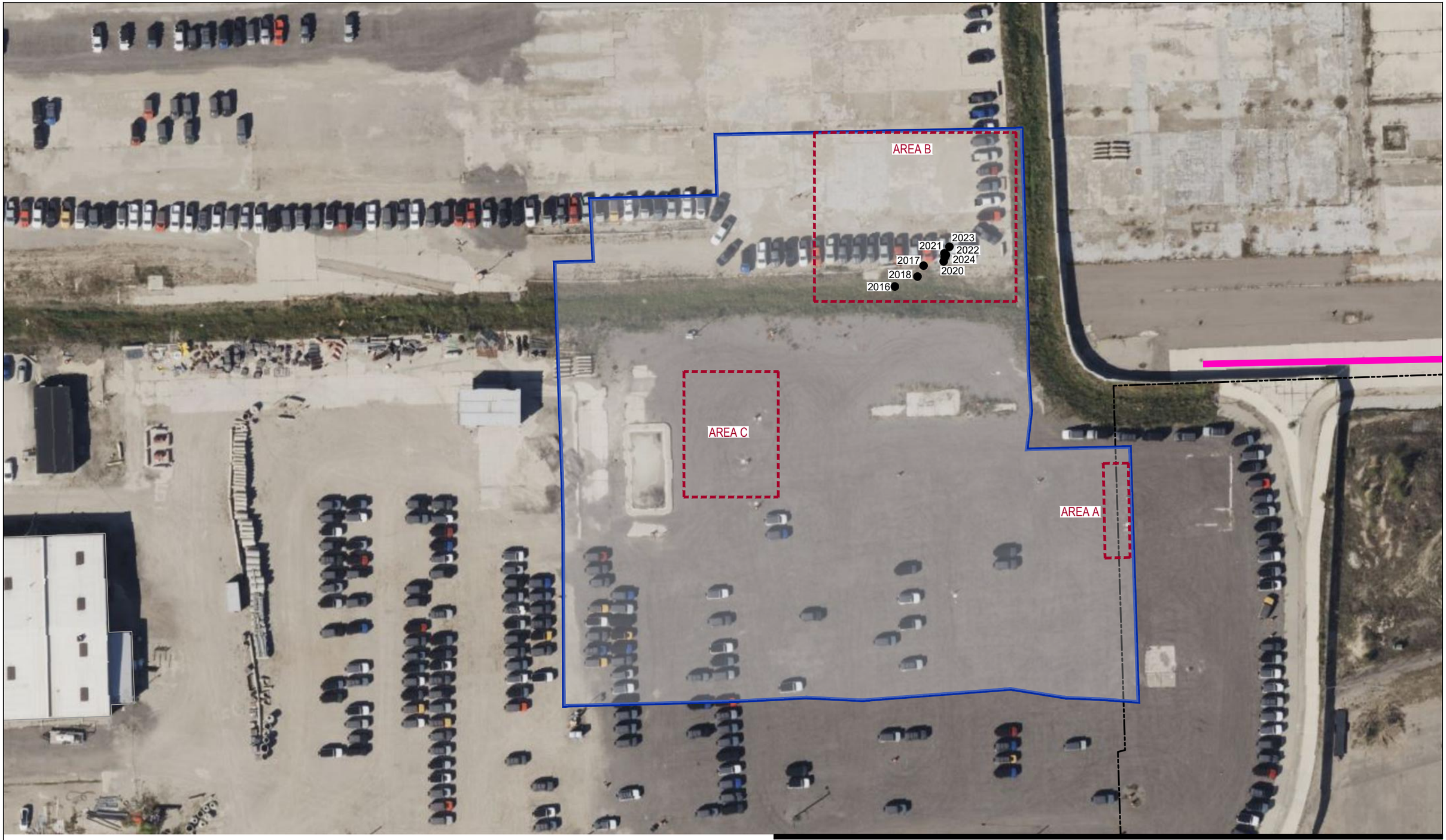

LEGEND

FRENCH DRAIN

PCE PLUM CENTER OF MASS

ESTIMATED EXTENT OF SOURCE AREAS

PCE RESTRICTION AREA

0 30 60 ft

1" = 60 ft

Coordinate System: MI83-SIF

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PCE PLUME CENTER OF MASS

Project No. **12602792**
Date **September 2024**

FIGURE 10

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D106_DE006.dwg
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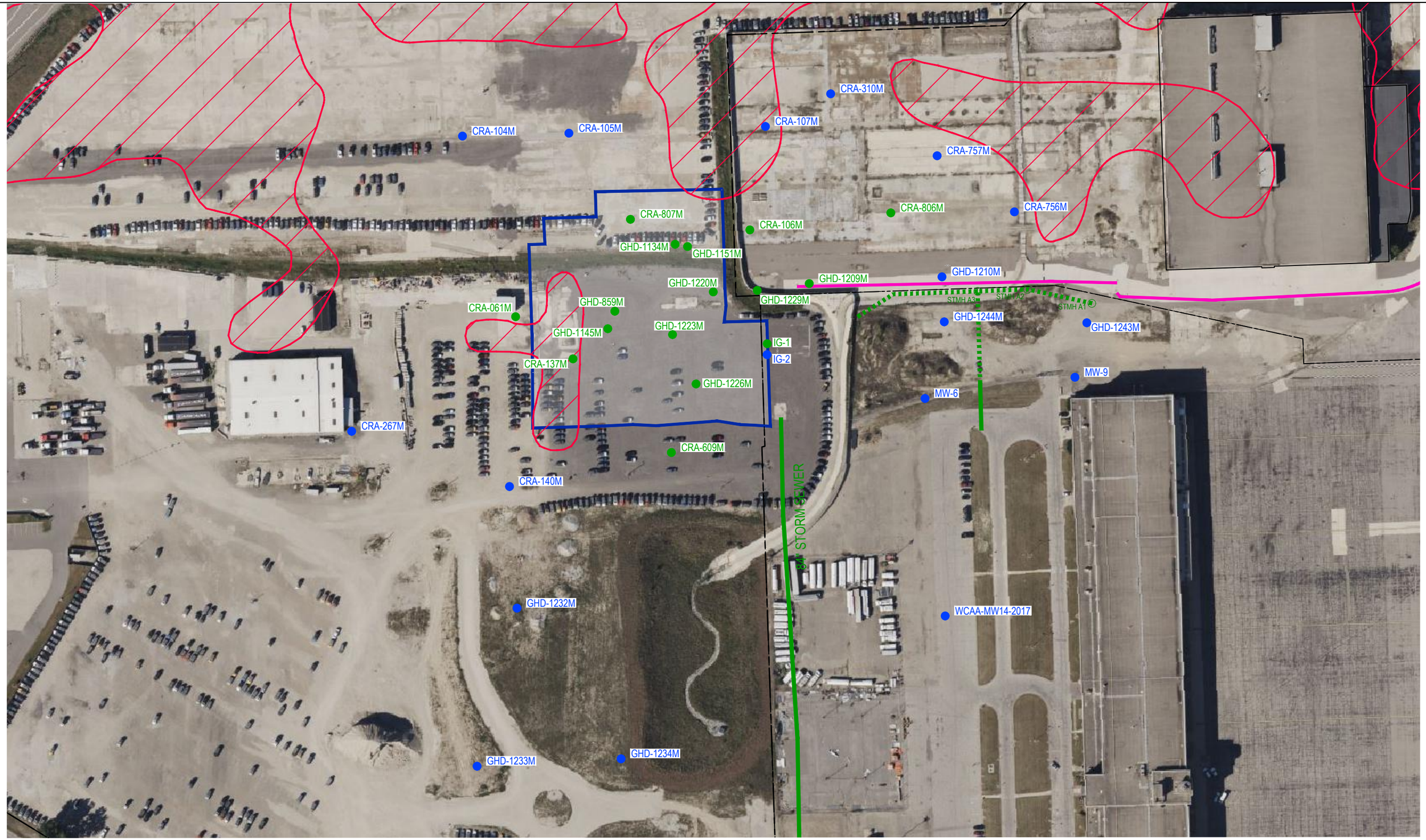

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE EXTENTS OF LNAPL
- STORM WATER MAIN LINES - ACTIVE
- AIRPORT MOLE HOLE DRAINAGE (BASED ON UNDATED DRAWINGS FROM AIRPORT AND FOUND STRUCTURES)
- FRENCH DRAIN
- WATER LEVEL MONITORING LOCATION (NO SAMPLING)
- SAMPLING AND WATER LEVEL LOCATION
- PCE RESTRICTION AREA

0 75 150 ft

1" = 150 ft

Coordinate System:
MICHIGAN SOUTH
INTERNATIONAL FEET NAD83

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

RECOMMENDED PCE Area MONITORING LOCATIONS

Project No. **12602792**
Date **September 2024**

FIGURE 11

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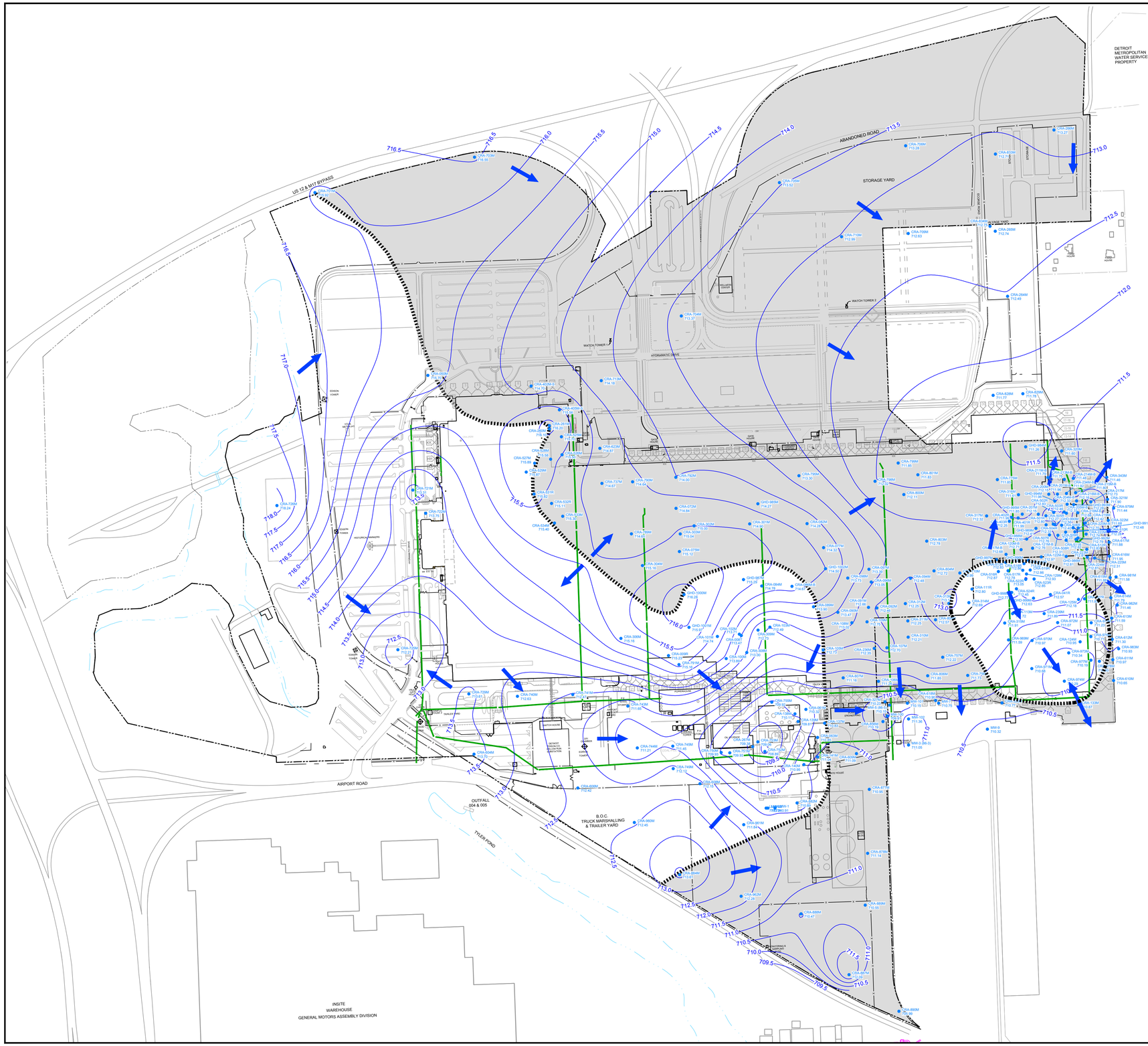
Appendices

Appendix A

Shallow Groundwater Contour Figures 2016-2024



NO	Revision	Date	Initial

0 100 250ft

LEGEND

- CRA-799M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- 711.85 — GROUNDWATER ELEVATION (FT AMSL) (JANUARY 2016)
- 712.00 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- APPROXIMATE FLOW DIVIDE (BETWEEN ON AND OFF-SITE FLOW)
- INTERPRETED AREA OF OFF-SITE FLOW (YAM PROPERTY INCLUDED IN ON-SITE AREA)

NOTES:
1. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
2. ALL COORDINATES ARE IN INTERNATIONAL FEET.
3. GHD-984M TO 1002M ADDED.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - JANUARY 2016

JANUARY 2016 CONTOUR PLANS

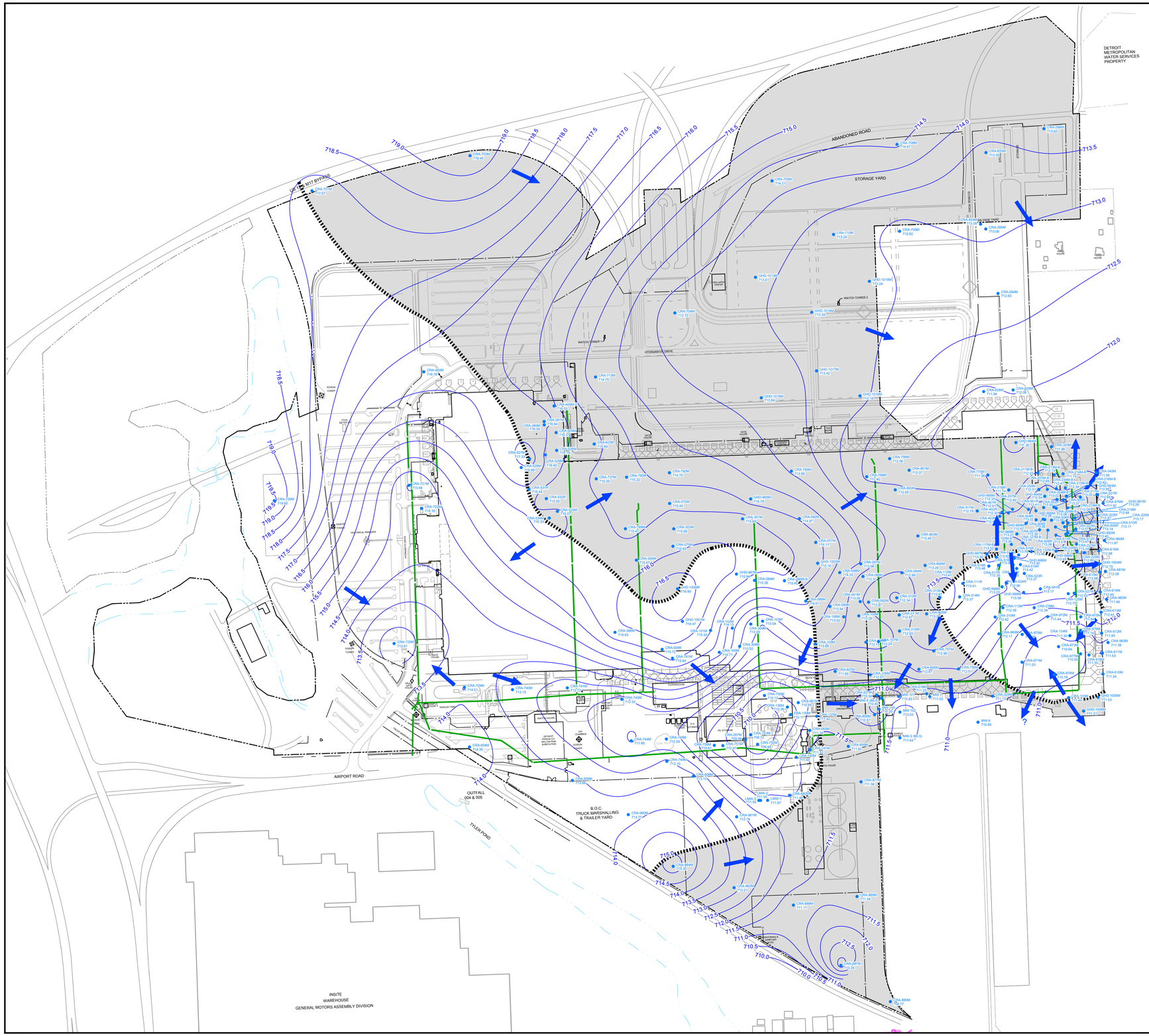
FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	JULY 2016	
Scale: 1"=250'	Project No: 017358-T01	Report No: MEMO166	Drawing No: A-1

017358-T01(MEMO166)GN-DE004 JUL 27, 2016



NO	Revision	Date	Initial

0 100 250ft

LEGEND

- CRA-264M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- 712.83 — GROUNDWATER ELEVATION (FT AMSL) (APRIL 2016)
- 712.0 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- APPROXIMATE FLOW DIVIDE (BETWEEN ON AND OFF-SITE FLOW)
- INTERPRETED AREA OF OFF-SITE FLOW (YAM PROPERTY INCLUDED IN ON-SITE AREA)

NOTES:
1. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
2. ALL COORDINATES ARE IN INTERNATIONAL FEET.
3. GHD-1004M TO GHD-1006M ADDED.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - APRIL 2016

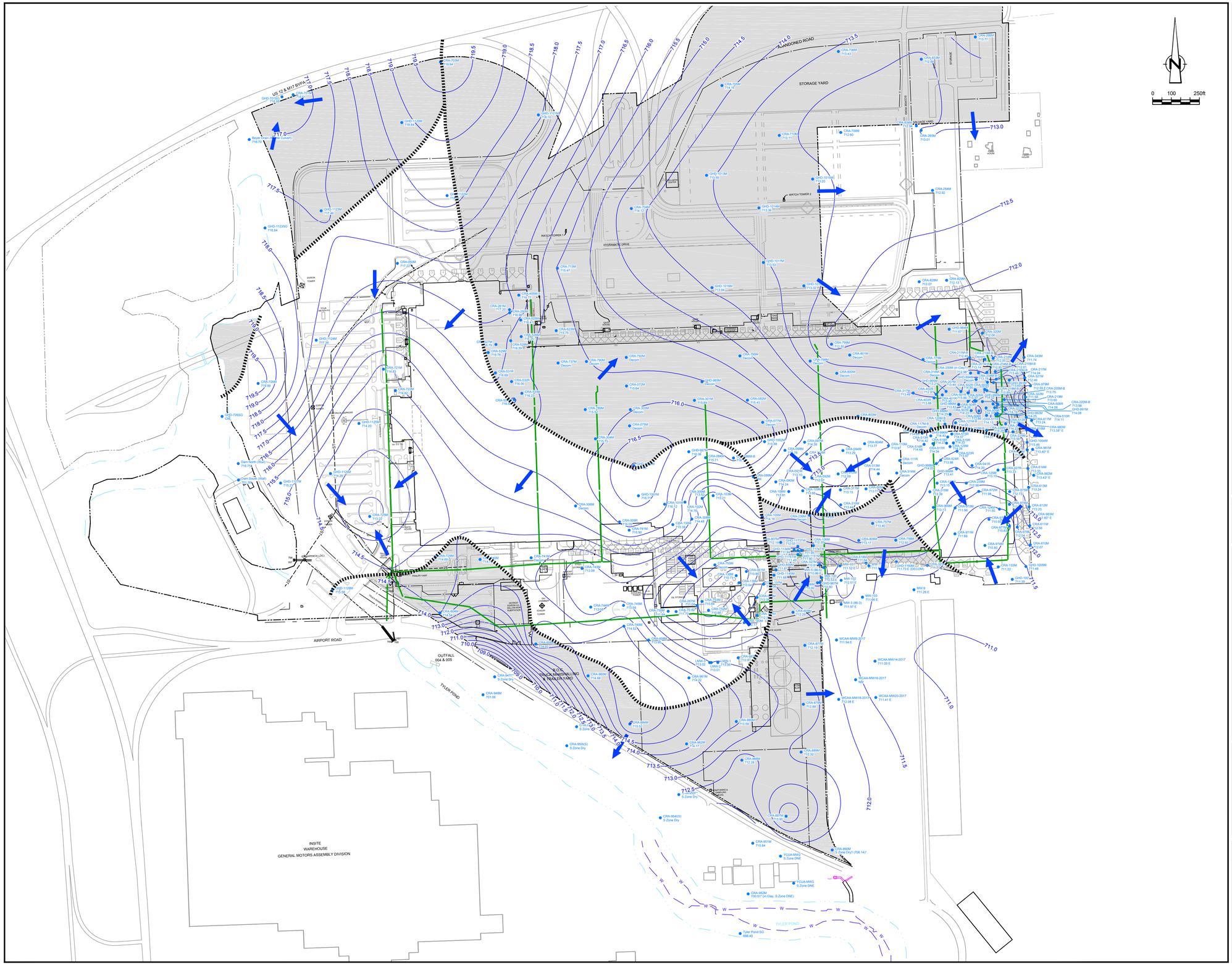
APRIL 2016 CONTOUR PLANS

FORMER POWERTRAIN PLANT
YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	JULY 2016	
Scale: 1"=250'	Project No: 017358-T01	Report No: MEMO166	Drawing No: A-4



NO	Revision	Date	Initial

LEGEND

- CRA-264M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 712.92 — GROUNDWATER ELEVATION (FT AMSL) (APRIL 2017)
- 711.0 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- * — NOT USED FOR CONTOURING
- ** — SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
- DECOM — MONITORING WELL DECOMMISSIONED MARCH 27 TO APRIL 7, 2017 TO FACILITATE ACM PROPERTY DEVELOPMENT AND RACER REMEDIAL EFFORTS (UTILITY TRENCH/FRENCH DRAIN)
- APPROXIMATE FLOW DIVIDE (BETWEEN ON AND OFF-SITE FLOW)
- INTERPRETED AREA OF OFF-SITE FLOW

SITE CONDITIONS:
1. TYLER POND WATER LEVEL LOWERED BEGINNING MARCH 8 OR 9, 2017. LEVELS ESTIMATED FOR APRIL 11 BASED ON MARCH 27 AND APRIL 24 LEVELS.

NOTES:
1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. SITE WATER LEVELS MEASURED APRIL 10-13, 2017 EXCEPT CRA-1160M, CRA-1160M WATER LEVEL MEASURED MARCH 29 AND ESTIMATED FOR APRIL 12 (+0.39' ELEV), WCAA WATER LEVELS MEASURED APRIL 26, 2017 AND ESTIMATED FOR APRIL 10-12 BASED ON WATER LEVELS IN VICINITY.
   - WELLS SOUTH OF SITE ESTIMATED FOR APRIL 12 (+0.25' ELEV.).
   - CRA-979M (EAST OF SITE) ESTIMATED FOR APRIL 10 (+0.40' ELEV.)
   - CRA-980-983M (EAST OF SITE) ESTIMATED FOR APRIL 11 (+1.30' ELEV.). BUT NOT USED SINCE TOO MUCH UNCERTAINTY (22mm PRECIP ON APR. 11)
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - APRIL 2017

APRIL 2017 CONTOUR PLANS

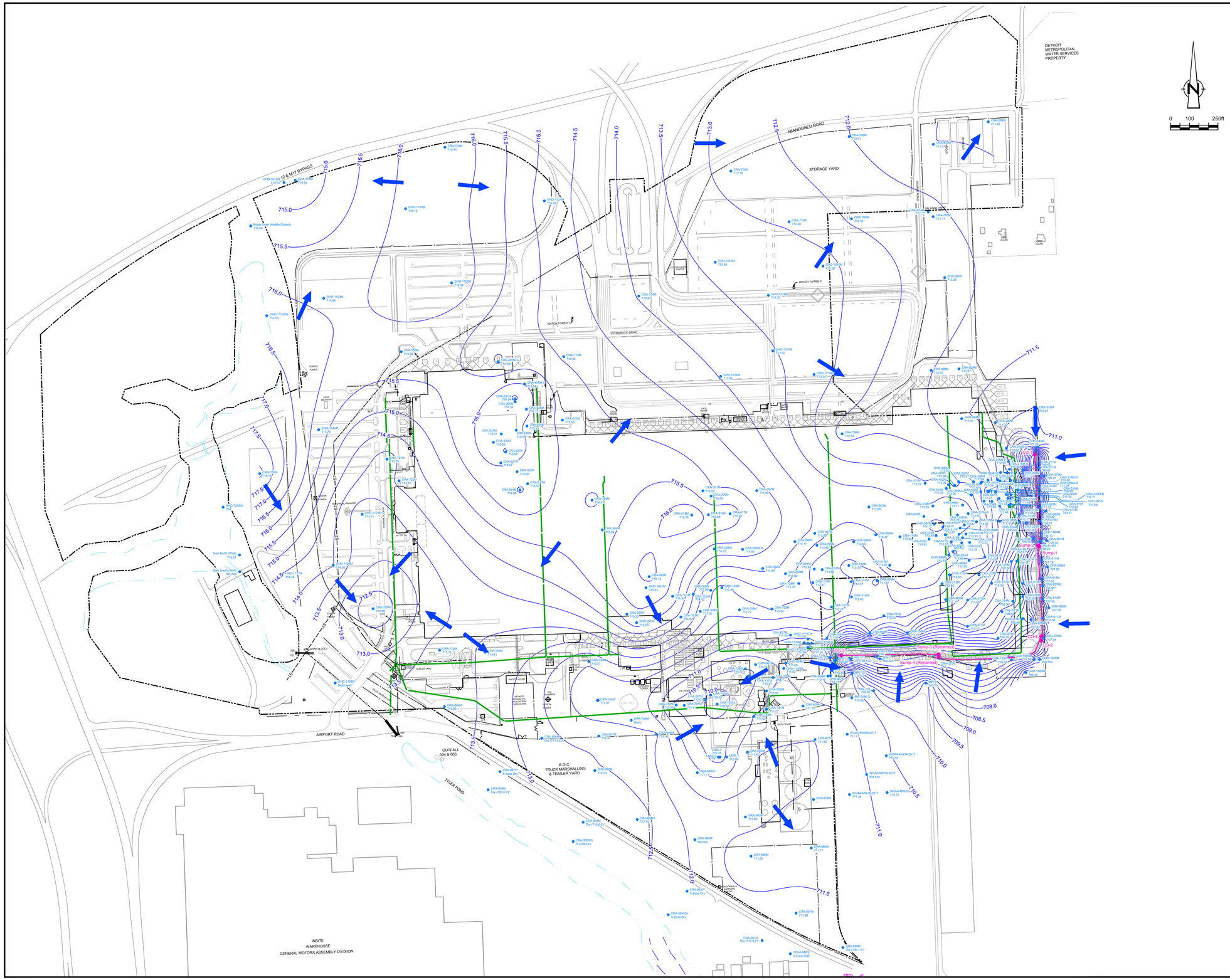
FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	MAY 2017	
Scale: 1"=250'	Project No.: 017358-T01	Report No.: PRES163	Drawing No.: figure 1

017358-T01(PRES163)GN-DE001 FEB 16, 2019



Nº	Revision	Date	Initial

LEGEND

CRA-264M	EXISTING MONITORING WELL LOCATION
	PROPERTY BOUNDARY (OCTOBER 2016)
	ESTIMATED STORM SEWER (MAIN LINES)
	SURFACE WATER
W	TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
712.26	GROUNDWATER ELEVATION (FT AMSL) (JULY 2017)
711.0	GROUNDWATER CONTOUR (FT AMSL)
	INTERPRETED GROUNDWATER FLOW DIRECTION
	FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
CO-1 SUMP-1	CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
*	NOT USED FOR CONTOURING
**	SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
CNL	COULD NOT LOCATE
NOT ACC.	NOT ACCESSIBLE

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 686.2 FT AMSL (APRIL 24, 2017).
2. FRENCH DRAIN AREA: CONSTRUCTION DEWATERING IN PROGRESS ALONG ALIGNMENT. PERVIOUS SURFACE.
3. FFB-C AREA: SLURRY WALLS INSTALLED ON NORTH, WEST AND SOUTH SIDES TO ~ 20 FT BGS (INTO CLAY BELOW INTERMEDIATE ZONE). DEWATERING.

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED JULY 10-12, 2017.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889, CRA-890 NESTS AND MW-9, 0.3' ADDED TO 2014 ELEVATION FOR CONSISTENCY WITH OTHER AREA WELLS.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - JULY 2017

JULY 2017 CONTOUR PLANS

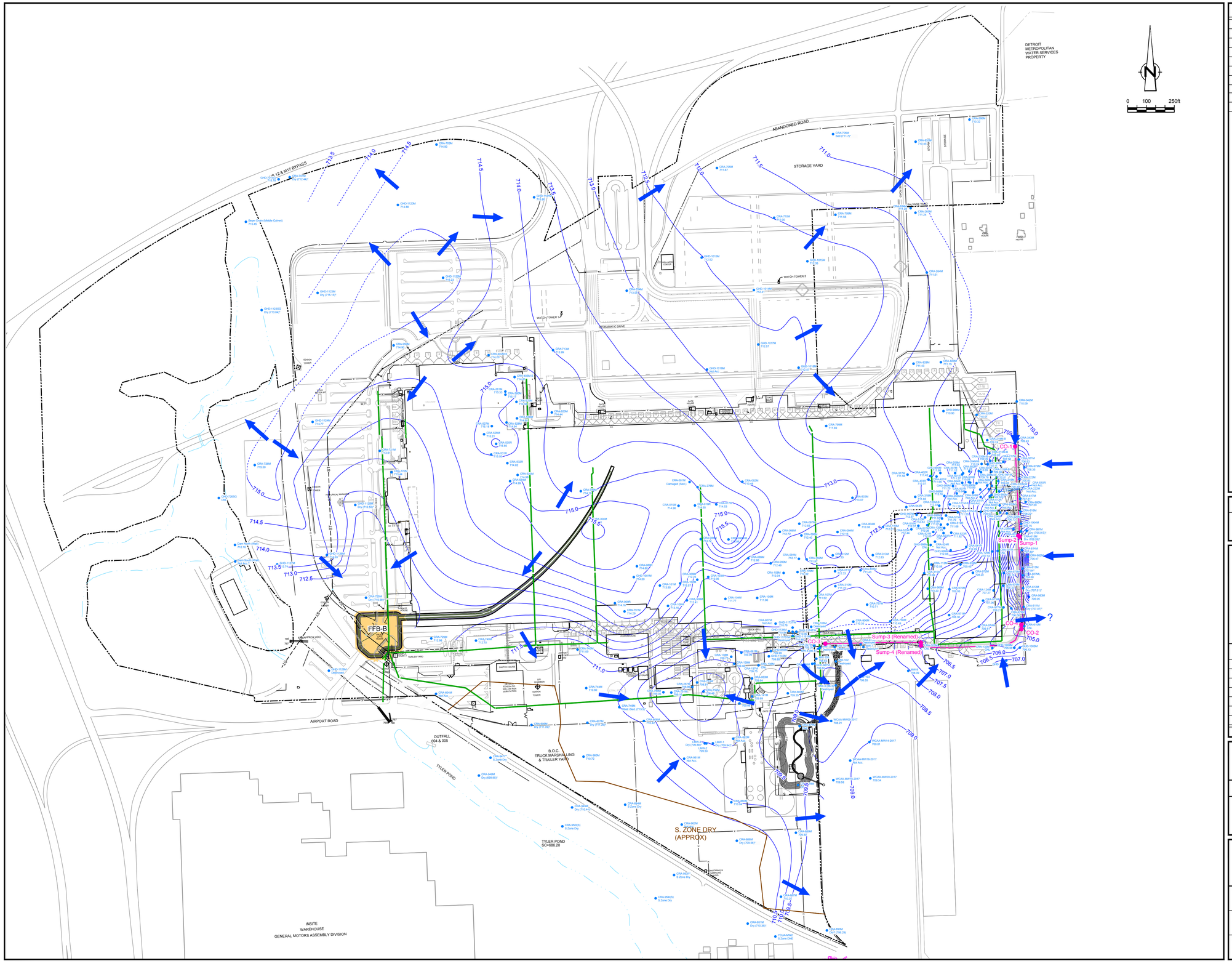
FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	AUGUST 2017	
Scale: 1"=250'	Project Nº: 017358-T01	Report Nº: PRES164	Drawing Nº: figure 1

017358-T01(PRES164)GN-DE004 FEB 20, 2019



Nº	Revision	Date	Initial

LEGEND

- CRA-321M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 706.93 — GROUNDWATER ELEVATION (FT AMSL) (OCTOBER 2017)
- 700.0 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1, SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- ACM SWALES (AS BUILT, NOT SURVEYED)
- ACM SWALES (SURVEYED 1/26/18)
- * — NOT USED FOR CONTOURING
- ** — SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
- CNL — COULD NOT LOCATE
- NOT ACC. — NOT ACCESSIBLE

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 686.2 FT AMSL (APRIL 24, 2017).
2. FRENCH DRAIN AREA: CONSTRUCTION DEWATERING IN PROGRESS ALONG ALIGNMENT (SUMPS 1-4 BELIEVED TO BE PUMPING). PERVIOUS SURFACE.
3. FFB-C AREA: LINER AND BALLAST INSTALLED. DEWATERING STOPPED. WESTERN AND EASTERN SWALES UNDER CONSTRUCTION.
4. STORM WATER SYSTEM CLOSURE IN PROGRESS (SEALING YAM MANHOLES, INTERIM CLOSURE OF MANHOLES AND CATCH BASINS, BULKHEADING OF MAIN LINES NOT STARTED).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED OCTOBER 9 - 13, 2017.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATION TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889, CRA-890 NESTS AND MW-9, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - OCTOBER 2017

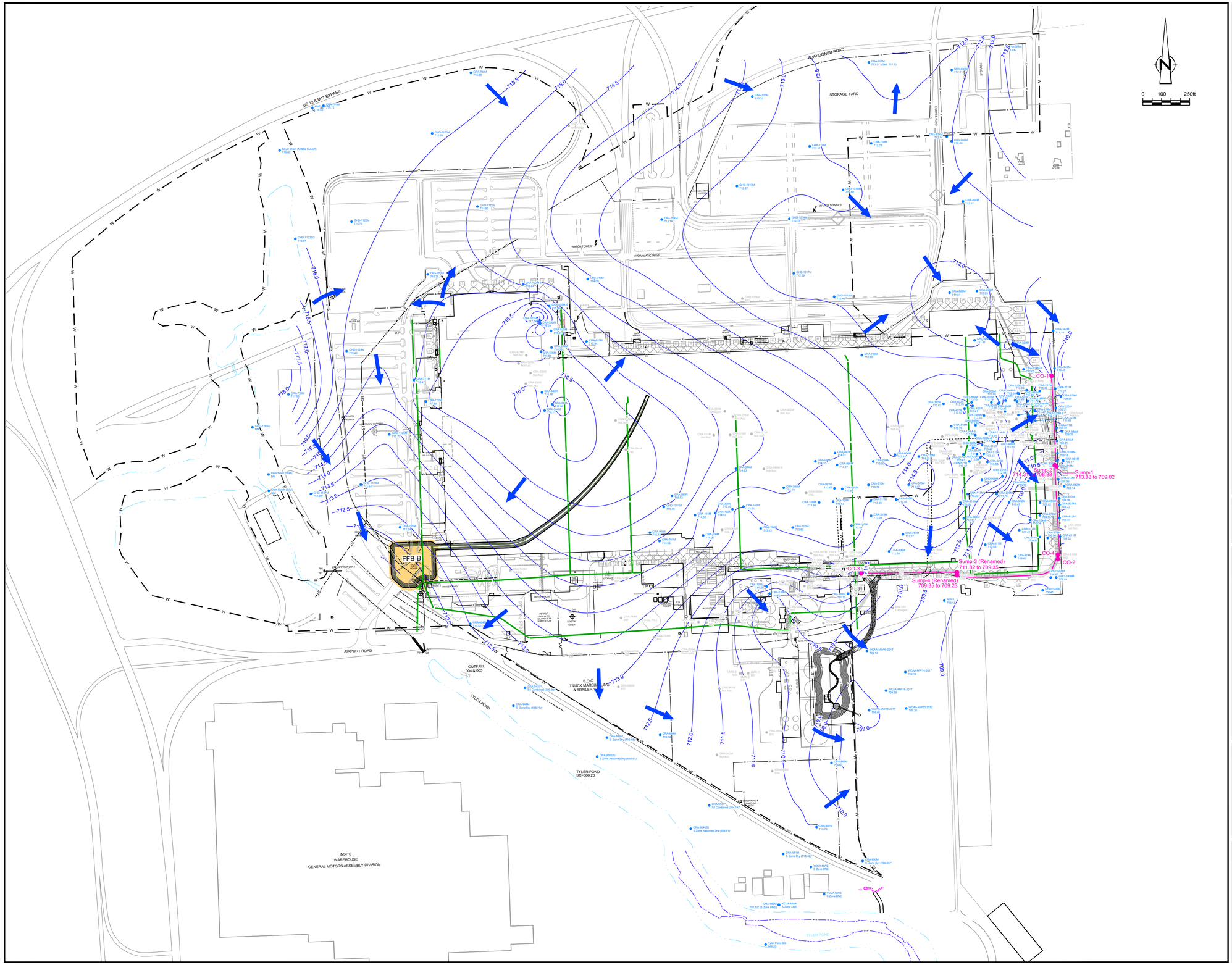
OCTOBER 2017 CONTOUR PLANS

FORMER POWERTRAIN PLANT
YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	OCTOBER 2017	
Scale:	Project Nº:	Report Nº:	Drawing Nº:
1"=250'	017358-T01	PRES169	figure 1



No	Revision	Date	Initial

LEGEND

- CRA-342M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 711.17 — GROUNDWATER ELEVATION (FT AMSL) (JANUARY 2018)
- 700.0 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1, SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- ACM SWALES (AS BUILT, NOT SURVEYED)
- ACM SWALES (SURVEYED 1/26/18)

*	NOT USED FOR CONTOURING
**	SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
CNL	COULD NOT LOCATE
NOT ACC.	NOT ACCESSIBLE

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 686.2 FT AMSL (APRIL 24, 2017).
2. FRENCH DRAIN AREA: DEWATERING STOPPED DECEMBER 18, 2017. STARTED PUMPING END OF JANUARY 22-26, 2018 WEEK. PERVIOUS SURFACE.
3. FFB-C AREA: OPERATIONAL SINCE NOVEMBER 1, 2017. WESTERN AND EASTERN SWALES COMPLETED, (WEST LINED, EAST PARTLY LINED, AREA CONNECTING TO CHANNEL NOT LINED), DISCHARGE TO 84" SEWER.
4. FFB-B: COMPLETED NOVEMBER 2017 (LINED).
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017. (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS, INSTALLATION OF BULKHEADS ON MAIN LINES).
6. DEWATERING IN PROGRESS IN NORTHWEST FOR NEXUS GAS LINE.

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED JANUARY 19-26, 2018.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889, CRA-890 NESTS AND MW-9, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS - JANUARY 2018

JANUARY 2018 CONTOUR PLANS

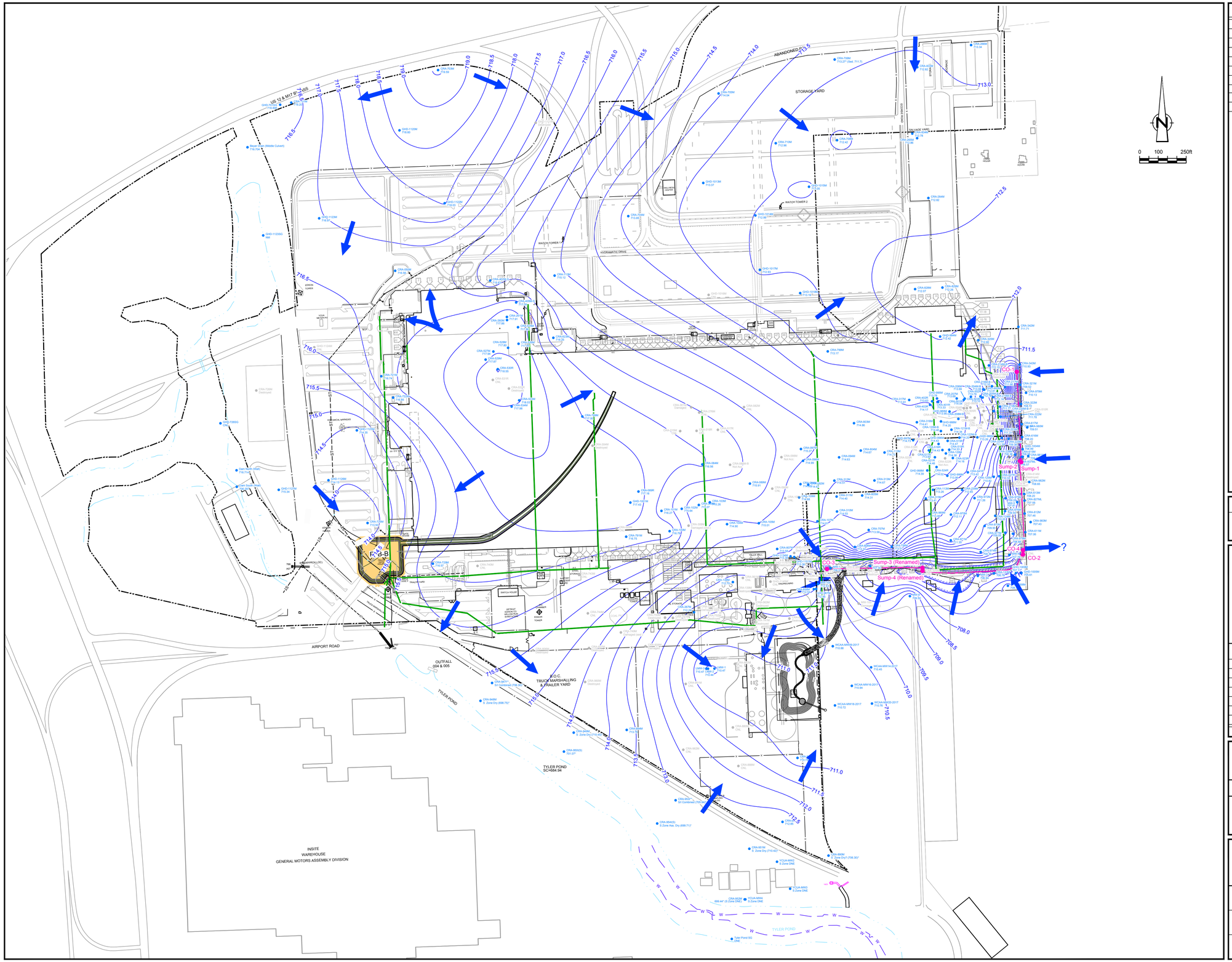
FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	APRIL 2018	
Scale: AS SHOWN	Project No: 017358-T01	Report No: PRES175	Drawing No: figure 1

017358-T01(PRES175)GN-DE006 FEB 18, 2019



Nº	Revision	Date	Initial

LEGEND

- CRA-342M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- ESTIMATED STORM SEWER (MAIN LINES)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 711.71 — GROUNDWATER ELEVATION (FT AMSL) (APRIL 2018)
- 700.0 — GROUNDWATER CONTOUR (FT AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1 / SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- ACM SWALES (AS BUILT, NOT SURVEYED)
- ACM SWALES (SURVEYED 1/26/18)

* NOT USED FOR CONTOURING

** SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY

CNL COULD NOT LOCATE

NOT ACC. NOT ACCESSIBLE

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 684.94 FT AMSL (APRIL 26, 2018).
2. FRENCH DRAIN AREA: SUMPS 1-4 OPERATING WITH SET-POINTS = 705.8 FT AMSL. PERVIOUS SURFACE.
3. FFB-C: WEST AND EAST SWALES COMPLETED (ASSUMED WEST LINED, EAST PARTLY LINED, AREA CONNECTING TO CHANNEL NOT LINED). OPERATIONAL SINCE NOVEMBER 1, 2017. DISCHARGE TO 84" SEWER.
4. FFB-B: COMPLETED NOVEMBER 2017 (LINED).
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017 (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS; INSTALLATION OF BULKHEADS ON MAIN LINES).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED APRIL 23-27, 2018.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889, CRA-890 NESTS AND MW-9, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

APRIL 2018 CONTOUR PLANS

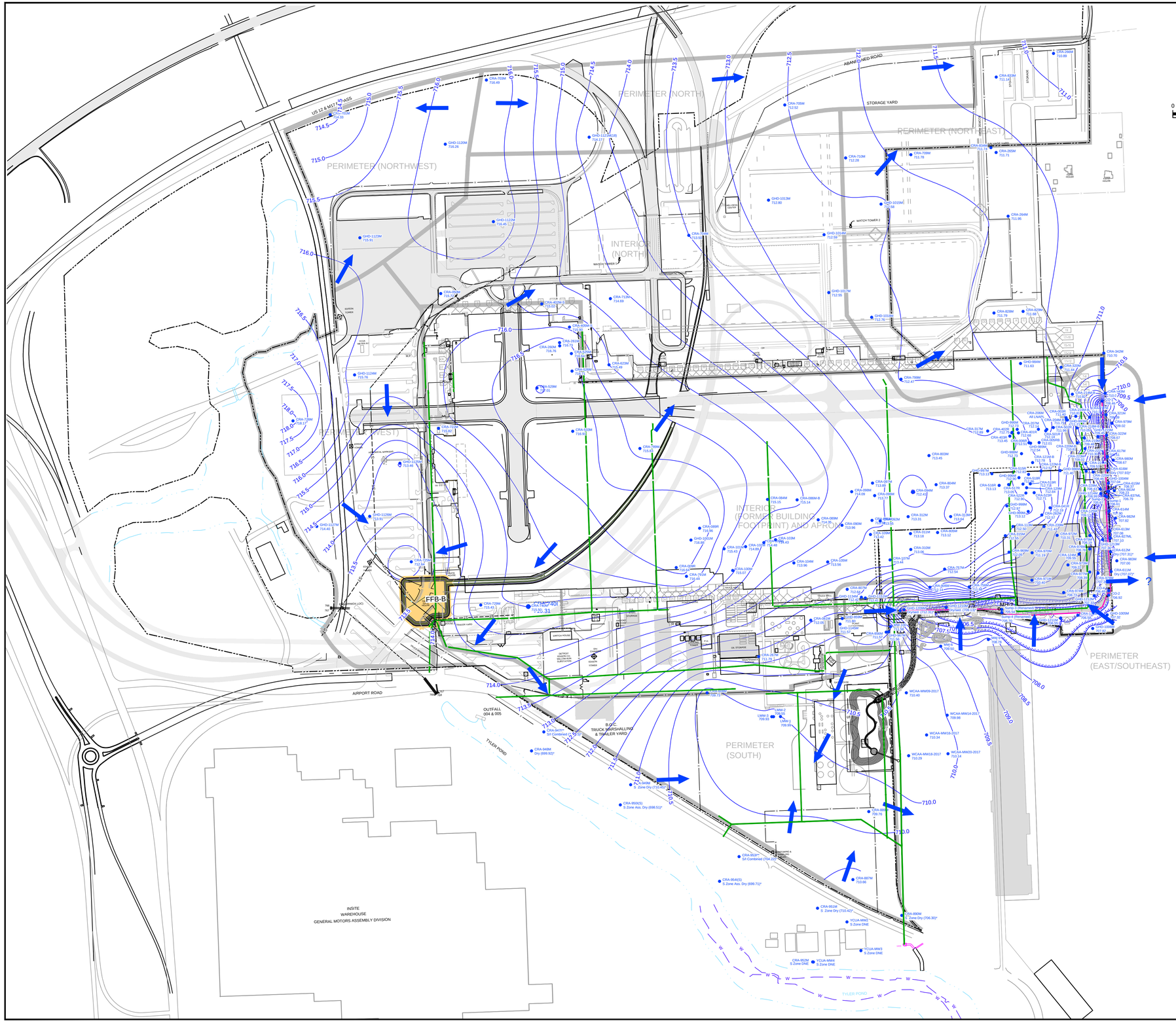
SHALLOW GROUNDWATER CONTOURS APRIL 2018

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	MAY 2018	
Scale: AS SHOWN	Project Nº: 017358-2018	Report Nº: PRES001	Drawing Nº: figure 1

017358-2018(PRES001)GN-DE002 MAR 19, 2019



Nº	Revision	Date	Initial

LEGEND

CRA-343M	EXISTING MONITORING WELL LOCATION
	PROPERTY BOUNDARY
	ESTIMATED STORM SEWER (MAIN LINES)
714.0	GROUNDWATER CONTOUR (FT. AMSL)
	INTERPRETED GROUNDWATER FLOW DIRECTION
	SURFACE WATER
W	TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
710.06	GROUNDWATER ELEVATION (FT AMSL) (JULY 2018)
	FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
*	NOT USED FOR CONTOURING
**	SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
CNL	COULD NOT LOCATE
NOT ACC.	NOT ACCESSIBLE
	ACM LAYOUT (07-27-2018)
	ACM SWALES (AS BUILT, NOT SURVEYED)
	ACM SWALES (SURVEYED 1/26/18)

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 684.94 FT AMSL (APRIL 2018)
2. FRENCH DRAIN AREA: SUMPS-1 TO 4 OPERATING WITH SET-POINTS = 705.63, 706.16, 705.75 AND 705.89 FT AMSL, RESPECTIVELY . IMPERVIOUS COVER PLACED JUNE-JULY 2018.
3. FFB-C: OPERATIONAL SINCE NOVEMBER 1, 2017. DISCHARGE TO 84" SEWER. WEST AND EAST SWALES COMPLETED (ASSUMED WEST LINED, EAST PARTLY LINED, AREA CONNECTING TO CHANNEL NOT LINED). YAM SWALES EXCAVATED SPRING 2018.
4. FFB-B COMPLETED NOVEMBER 2017 (LINED).
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017 (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS; INSTALLATION OF BULKHEADS ON MAIN LINES).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED JULY 23-26, 2018, EXCEPT GHD-1121M(18) (MEASURED AUGUST 13, 2018).
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889 AND CRA-890 NESTS, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

JULY 2018 CONTOUR PLANS

SHALLOW GROUNDWATER CONTOURS - JULY 2018

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	MAY 2019	
Scale: AS SHOWN	Project Nº: 017358-2019	Report Nº: 044	Drawing Nº: 2.6

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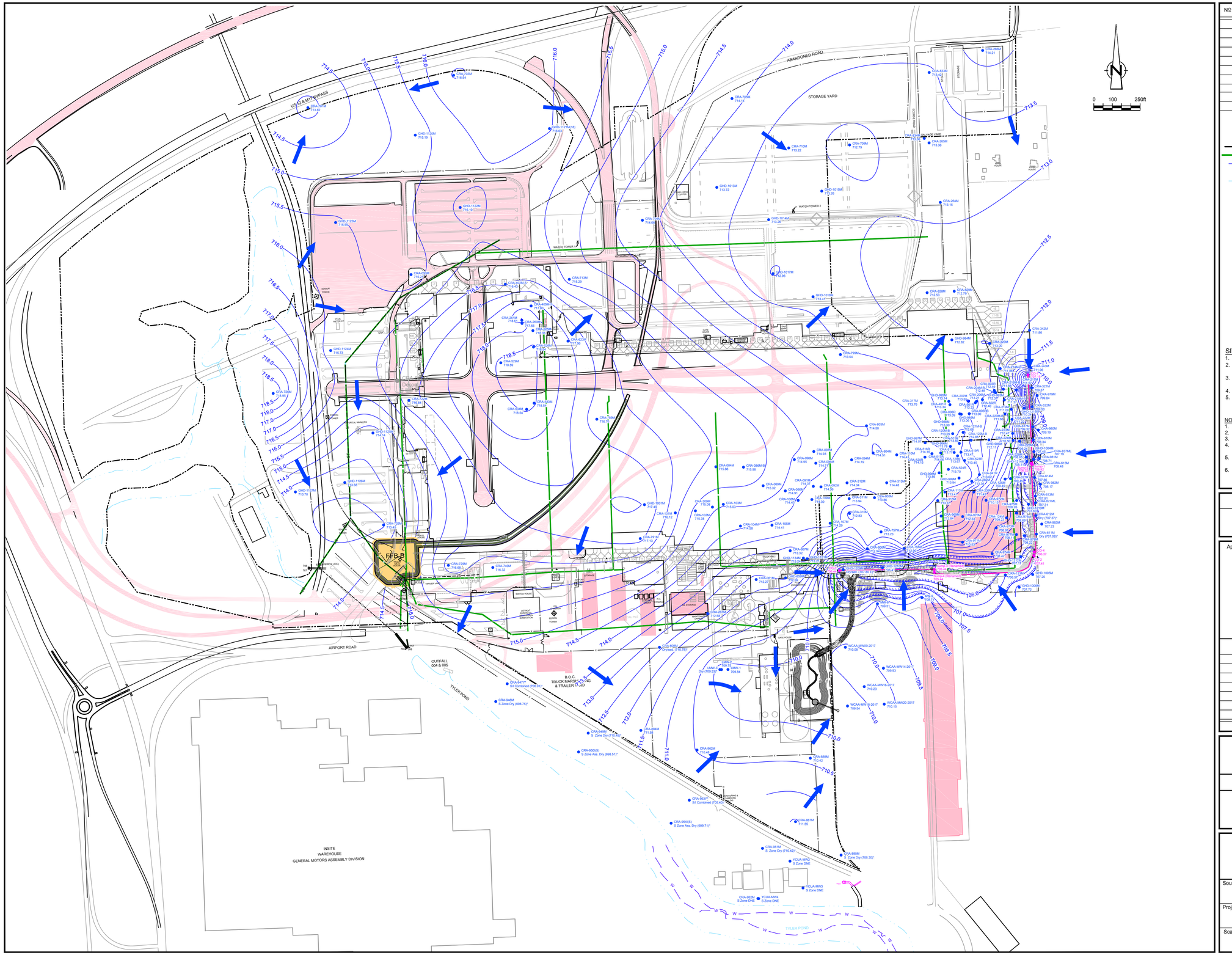


Nº	Revision	Date	Initial

LEGEND

- CRA-246M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- ESTIMATED STORM SEWER (MAIN LINES)
- 714.0 — GROUNDWATER CONTOUR (FT. AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 715.07 — GROUNDWATER ELEVATION (FT AMSL) (OCTOBER 2018)
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1, SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- * — NOT USED FOR CONTOURING
- ** — SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY
- ACM LAYOUT (07-27-2018)
- ACM SWALES (AS BUILT, NOT SURVEYED)
- ACM SWALES (SURVEYED 1/26/18)

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 684.95 FT AMSL (OCTOBER 2018).
2. FRENCH DRAIN AREA: SUMPS-1 TO 4 OPERATING WITH SET-POINTS = XXX.X FT AMSL. IMPERVIOUS SURFACE.
3. FFB-C: OPERATIONAL SINCE NOVEMBER 1, 2017. DISCHARGE TO 84" SEWER. ALL SWALES LINED.
4. FFB-B COMPLETED NOVEMBER 2017 (LINED).
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017 (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS; INSTALLATION OF BULKHEADS ON MAIN LINES).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED OCTOBER 8-10, 2018.
3. LNAPL NOT OBSERVED IN ANY INTERMEDIATE WELLS.
4. FIRST FLUSH BASIN C AND CHANNEL CONTOURS REPRESENT PROPOSED FINAL GRADES, SOURCE: 81613-06(005)CI-WA008-C09 DATED JULY 11, 2017.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. AT CRA-888, CRA-889 AND CRA-890 NESTS, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

OCTOBER 2018 CONTOUR PLANS

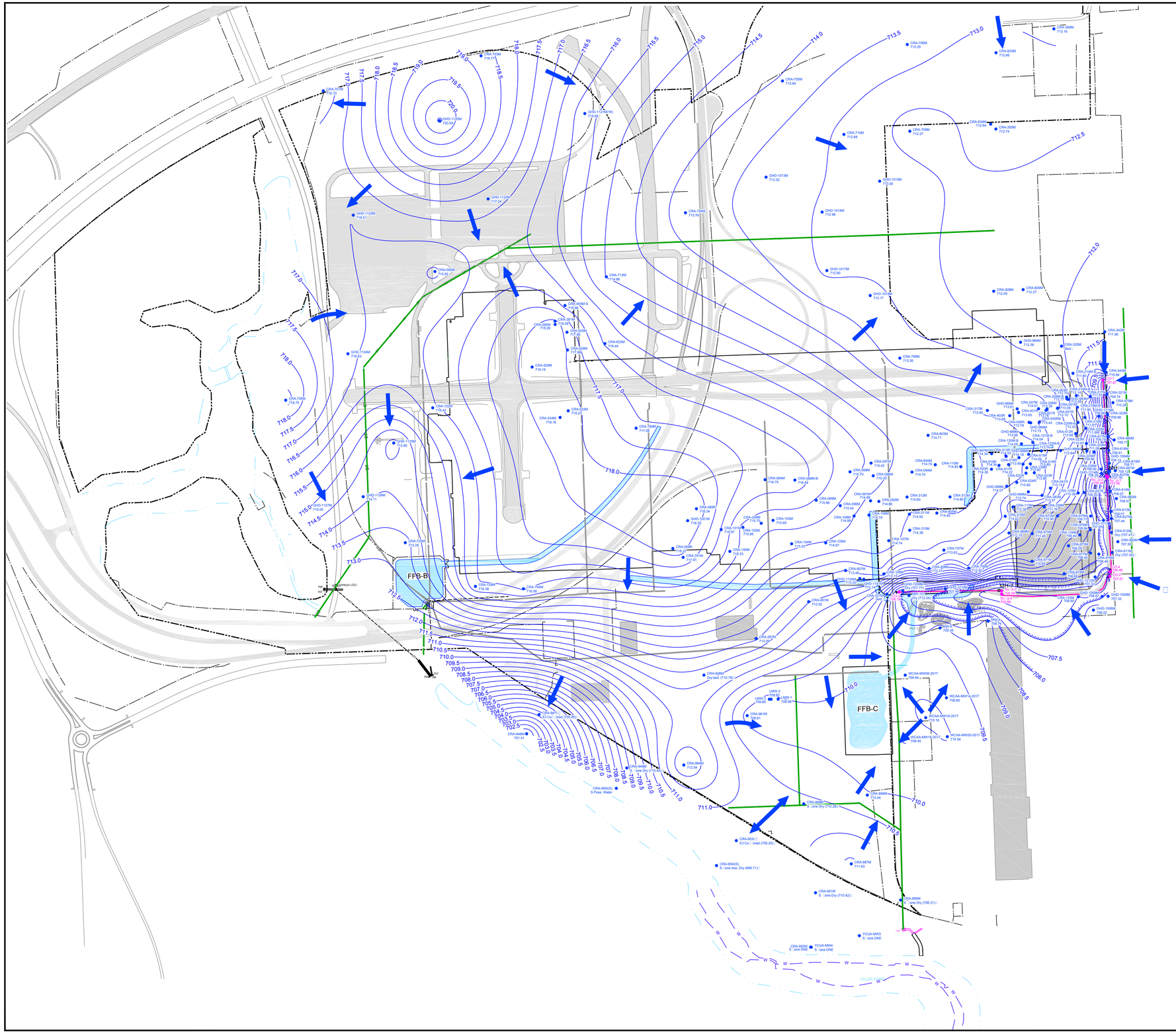
SHALLOW GROUNDWATER CONTOURS - OCTOBER 2018

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	JANUARY 2018	
Scale: AS SHOWN	Project Nº: 017358-2018	Report Nº: PRES005	Drawing Nº: figure 3

017358-2018(PRES005)GN-DE005 FEB 19, 2019



No	Revision	Date	Initial

LEGEND

- CRA-265M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- 714.0 — GROUNDWATER CONTOUR (FT. AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ESTIMATED STORM SEWER (MAIN LINES - ACTIVE)
- ESTIMATED STORM SEWER (MAIN LINES - INACTIVE)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 712.74 — GROUNDWATER ELEVATION (FT AMSL) (APRIL 2019)
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1, SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- TEST ROADS, ACCESS ROADS, OTHER ROADS AND CURRENT BUILDINGS (NOT SURVEYED) - ACM SITE PLAN (07-27-2018)
- SURFACE STORM WATER FEATURES (02-21-2019)
- NOT USED FOR CONTOURING
- SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 681.49 FT AMSL (APRIL 2019).
2. FRENCH DRAIN: SUMP 1:2 IN MANUAL AT 55%. SUMP 3:4 IN AUTO. AVERAGE SUMP ELEVATIONS (FT AMSL) APR. 8-12, 2019: 1 - 706.7, 2 - 706.7, 3 - 706.0, 4 - 706.0. IMPERVIOUS SURFACE.
3. FFB-B: COMPLETED NOVEMBER 2017 (LINED).
4. FFB-C: OPERATIONAL SINCE NOVEMBER 1, 2017. DISCHARGE TO 84" SEWER. ALL SWALES LINED.
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017 (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS; INSTALLATION OF BULKHEADS ON MAIN LINES).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED APRIL 8-12, 2019.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASINS B & C AND CHANNEL OUTLINES REPRESENT SURVEYED LIMITS, SOURCE ACM AND GHD, DATED 2-21-19 AND 4-8-19.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE. AT CRA-888, CRA-889 AND CRA-890 NESTS, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

APRIL 2019 CONTOUR PLANS

SHALLOW GROUNDWATER CONTOURS - APRIL 2019

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:
B. L.	W.B.	FEBRUARY 2020

Scale:	Project No:	Report No:	Drawing No:
AS SHOWN	017358-2019	PRES001	figure B.1

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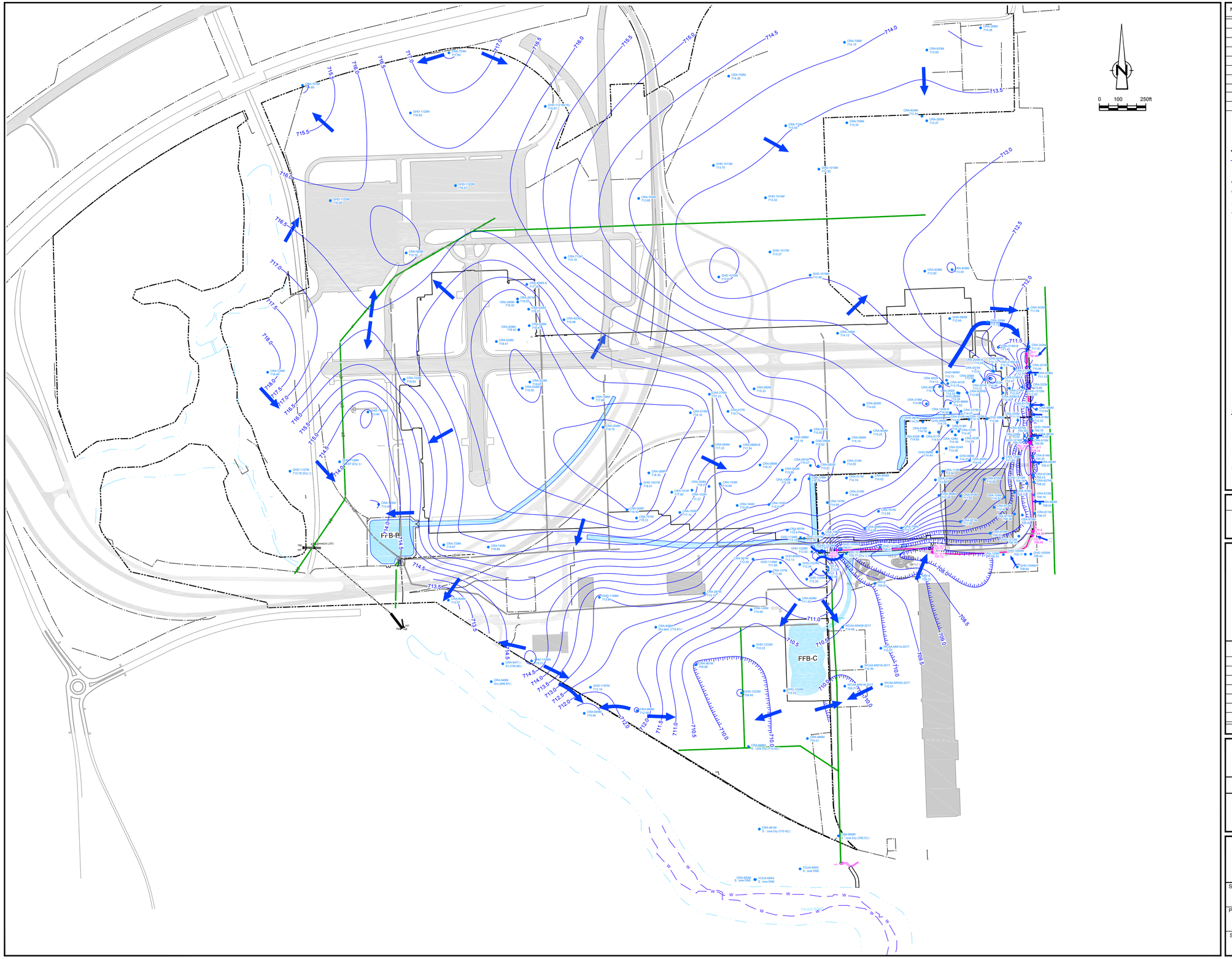

No	Revision	Date	Initial

LEGEND

- CRA-828M — EXISTING MONITORING WELL LOCATION
- PROPERTY BOUNDARY (OCTOBER 2016)
- 714.0 — GROUNDWATER CONTOUR (FT. AMSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ESTIMATED STORM SEWER (MAIN LINES - ACTIVE)
- ESTIMATED STORM SEWER (MAIN LINES - INACTIVE)
- SURFACE WATER
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- 712.83 — GROUNDWATER ELEVATION (FT AMSL) (DECEMBER 2019)
- FRENCH DRAIN AND TRENCH EXCAVATION (AS BUILT, NOT SURVEYED)
- CO-1, SUMP-1 — CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- NOT USED FOR CONTOURING
- SHALLOW AND INTERMEDIATE □ONES NOT SEPARATED BY CLAY
- TEST ROADS, ACCESS ROADS, OTHER ROADS AND CURRENT BUILDINGS (NOT SURVEYED) - ACM SITE PLAN (07-27-2018)
- SURFACE STORM WATER FEATURES (02-21-2019)

SITE CONDITIONS:

1. TYLER POND LOWERED. WATER LEVEL = 681.49 FT AMSL (APRIL 2019).
2. FRENCH DRAIN: SUMP 1:3 IN MANUAL AT 60□, SUMPS 2:4 IN AUTO AT 60□. AVERAGE SUMP ELEVATIONS (FT AMSL) DEC 2-6, 2019: 1-708.9, 2-708.1, 3-708.3, 4-708.2.
3. FFB-C: OPERATIONAL SINCE NOVEMBER 1, 2017. DISCHARGE TO 84" SEWER. ALL SWALES LINED.
4. FFB-B: COMPLETED NOVEMBER 2017 (LINED).
5. STORM WATER SYSTEM CLOSURE: COMPLETED NOVEMBER 2017 (CLOSURE OF MANHOLES, CATCH BASINS AND OTHER SLAB PENETRATIONS□INSTALLATION OF BULKHEADS ON MAIN LINES).

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET.
2. WATER LEVELS MEASURED DECEMBER 2-6, 2019.
3. WATER LEVELS IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. FIRST FLUSH BASINS B & C AND CHANNEL OUTLINES REPRESENT SURVEYED LIMITS, SOURCE ACM AND GHD, DATED 02-21-2019 AND 04-08-2019.
5. FRENCH DRAIN SOURCE: 017358-T02(036)GN-DE027 (OCTOBER 6, 2018) WITH MODIFICATIONS TO CONSTRUCT FOUR (4) SEPARATE LINES (NOVEMBER 16, 2018).
6. REFERENCE ELEVATIONS USED ARE APRIL 2015 OR LATER IF AVAILABLE. AT CRA-888, CRA-889 AND CRA-890 NESTS, 0.3' ADDED TO 2014 ELEVATIONS FOR CONSISTENCY WITH OTHER AREA WELLS.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER POWERTRAIN PLANT
YPSILANTI, MICHIGAN

DECEMBER 2019 CONTOUR PLANS

SHALLOW GROUNDWATER CONTOURS - DECEMBER 2019

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. L.	W.B.	FEBRUARY 2020	
Scale: AS SHOWN	Project No: 017358-2019	Report No: PRES004	Drawing No: figure B.2

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No.	Revision	Date	Initial

LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER
- FRENCH DRAIN
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- ESTIMATED STORM SEWER (MAIN LINES - ACTIVE)
- ESTIMATED STORM SEWER (MAIN LINES - INACTIVE)
- 712.5 GROUNDWATER CONTOURS (OCTOBER 2020)
- CRA-343M EXISTING MONITORING WELL (NO LNAPL)
- GHD-993M EXISTING MONITORING WELL (LNAPL)
- CRA-214M-B EXISTING MONITORING WELL (NO DATA)
- CO-1 / SUMP-1 CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- Tyler Pond Utility Bridge TYLER POND SURFACE WATER
- LNAPL (OCTOBER 2018)
- NO SHALLOW ZONE (CLAY AT SURFACE)
- SHALLOW ZONE DRY
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ★ NOT USED FOR CONTOURING
- ★★ SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY

SITE CONDITIONS:
1. FRENCH DRAIN OFF MAR. 6, 2020

NOTES:
1. ALL COORDINATES ARE IN INTERNATIONAL FEET
2. WATER LEVELS MEASURED MAY 11-13, 2020
3. WATER LEVEL IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. SUMP WATER LEVELS FROM HMI DATA TRACKER MAY 11, 2020 AVERAGES. SUMP-1 = 698.049+150.06", SUMP-2 = 698.454+145.29", SUMP-4 = 696.143+171.49", SUMP-3 = 696.128+172.56".
5. ELEVATIONS ALONG FRENCH DRAIN BETWEEN SUMPS AND CLEAN-OUTS ESTIMATED USING GHOST POINTS
6. CONTOURS COMPLETED USING SURFER: DATE-S-CORR WL-KRIG-LINDRIFT-SITE+LIMITS-10FTGRID-WDRAIN-CLIP

FRENCH DRAIN OFF
(CONTOURED WITH SUMP, CLEANOUT AND GHOST POINT WATER LEVELS)

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS MAY 2020

MAY 2020 CONTOUR PLANS

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B.L.	W.B.	AUGUST 2020	
Scale: AS SHOWN	Project No.: 017358-2020	Report No.: PRES001	Drawing No.: A.1

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N º	Revision	Date	Initial

LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER
- FRENCH DRAIN
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 712.5 GROUNDWATER CONTOUR (FT. AMSL)
- GHD-226M EXISTING MONITORING WELL (NO LNAPL)
- CRA-318M EXISTING MONITORING WELL (LNAPL)
- CRA-214M-B EXISTING MONITORING WELL (NO DATA)
- CO-1 / SUMP-1 CLEANOUTS AND SUMPS ALONG FRENCH DRAIN
- Tyler Pond Utility Bridge TYLER POND SURFACE WATER
- LNAPL (OCTOBER 2018)
- NO SHALLOW ZONE (CLAY AT SURFACE)
- SHALLOW ZONE DRY
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ★ NOT USED FOR CONTOURING
- ★★ SHALLOW AND INTERMEDIATE ZONES NOT SEPARATED BY CLAY

SITE CONDITIONS:
FRENCH DRAIN ON

NOTES:
1. ALL COORDINATES ARE IN INTERNATIONAL FEET
2. WATER LEVELS MEASURED OCTOBER 12-15 & 19, 2020
3. WATER LEVEL IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. SUMP WATER LEVELS FROM HMI DATA TRACKER OCTOBER 12, 2020 AVERAGES. SUMP-1 = 698.049+150.06", SUMP-2 = 698.454+145.29", SUMP-4 = 696.143+171.49", SUMP-3 = 696.128+172.56".
5. ELEVATIONS ALONG FRENCH DRAIN BETWEEN SUMPS AND CLEAN-OUTS ESTIMATED USING GHOST POINTS
6. CONTOURS COMPLETED USING SURFER: DATE-S-CORR WL-KRIG-LINDRIFT-SITE+LIMITS-10FTGRID-WDRAIN-CLIP

FRENCH DRAIN ON
(CONTOURED WITH SUMP, CLEANOUT AND GHOST POINT WATER LEVELS)

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SHALLOW GROUNDWATER CONTOURS OCTOBER 2020

OCTOBER 2020 CONTOUR PLANS

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B.L.	W.B.	AUGUST 2020	
Scale: AS SHOWN	Project N º: 017358-2020	Report N º: PRES001	Drawing N º: A.2

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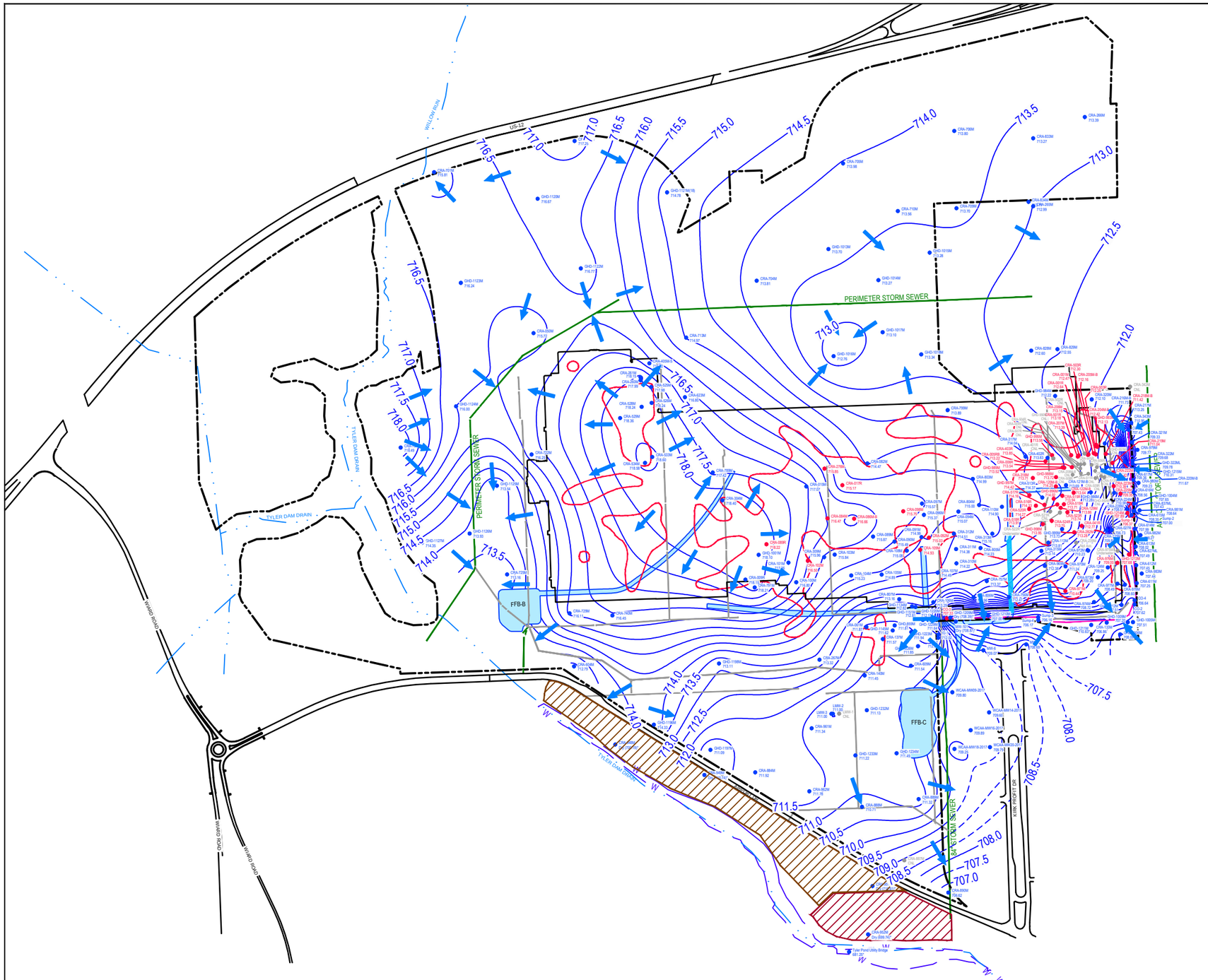

LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER
- FRENCH DRAIN
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 712.5 GROUNDWATER CONTOUR (FT. AMSL)
- EXISTING MONITORING WELL (NO LNAPL)
- EXISTING MONITORING WELL (LNAPL)
- EXISTING MONITORING WELL (NO DATA)
- SURFACE STORM WATER FEATURES (02-21-2019)
- LNAPL (OCTOBER 2018)
- NO SHALLOW ZONE (CLAY AT SURFACE)
- SHALLOW ZONE DRY
- INTERPRETED GROUNDWATER FLOW DIRECTION
- * NOT USED FOR CONTOURING

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET
2. WATER LEVELS MEASURED MAY 3-7, 2021
3. WATER LEVEL IN WELLS CONTAINING LNAPL WERE CORRECTED USING LNAPL DENSITY = 0.9.
4. SUMP WATER LEVELS FROM HMI DATA TRACKER MAY 3, 2021 AVERAGES.
5. ELEVATIONS ALONG FRENCH DRAIN BETWEEN SUMPS AND CLEAN-OUTS ESTIMATED USING GHOST POINTS
6. CONTOURS COMPLETED USING SURFER: WRPT-GWLs-DATE-S-CORRWL-KRIG-LINDRIFT-SITE+LIMITS-10FTGRID-WDRAIN-CLIP

FRENCH DRAIN ON

(CONTOURED WITH SUMP, CLEANOUT AND GHOST POINT WATER LEVELS)

0 300 600 ft

1" = 600 ft

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GHD

FORMER WILLOW RUN POWERTRAIN PLANT
YPSILANTI, MICHIGAN

SHALLOW ZONE GROUNDWATER CONTOURS - MAY 2021

Project No. **11223073**
Date **August 2021**

FIGURE 2

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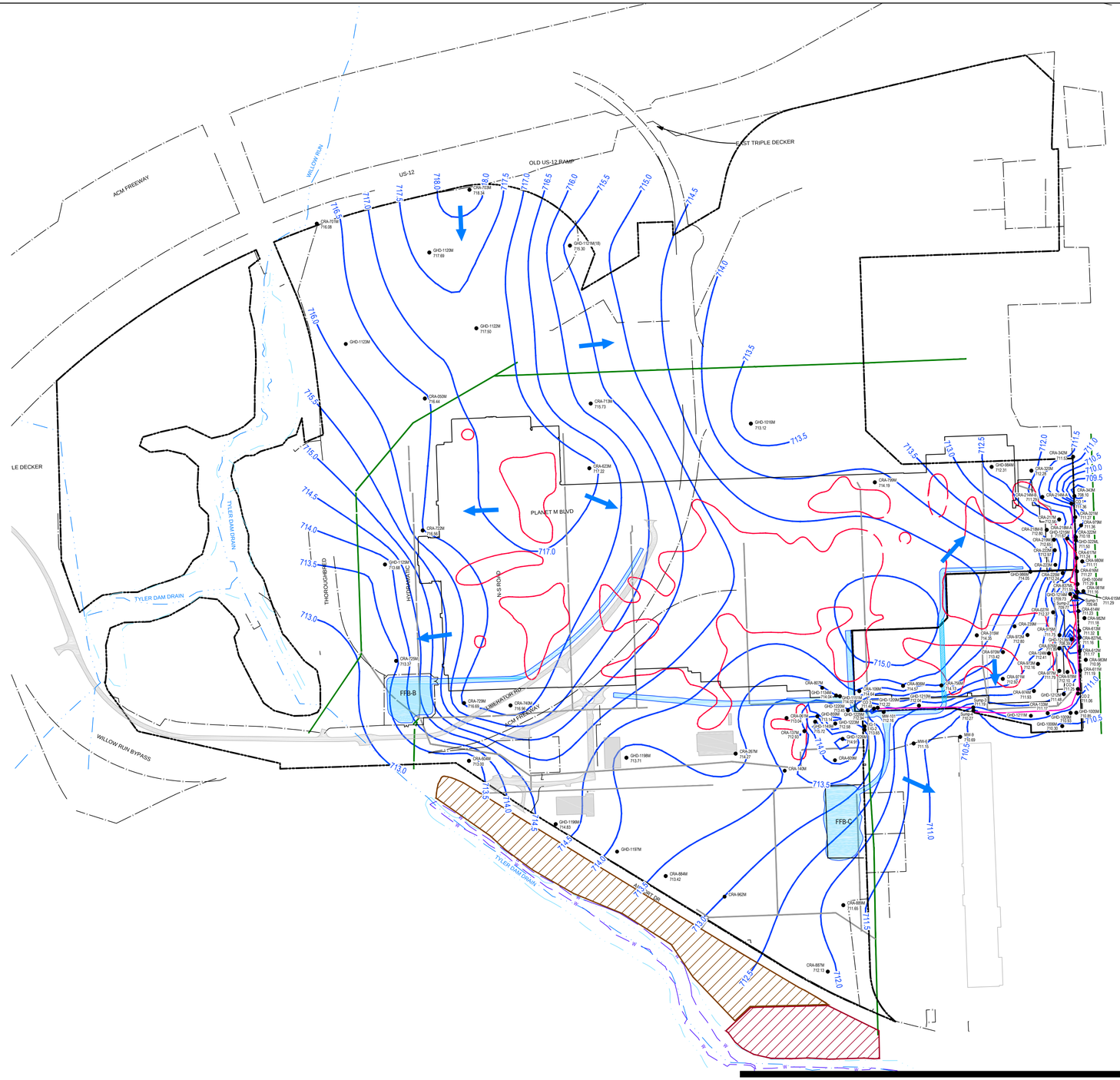
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CRA-029M 711.32
CRA-028M 711.32
CRA-027M 711.32
CRA-026M 711.32
CRA-025M 711.32
CRA-024M 711.32
CRA-023M 711.32
CRA-022M 711.32
CRA-021M 711.32
CRA-020M 711.32
CRA-019M 711.32
CRA-018M 711.32
CRA-017M 711.32
CRA-016M 711.32
CRA-015M 711.32
CRA-014M 711.32
CRA-013M 711.32
CRA-012M 711.32
CRA-011M 711.32
CRA-010M 711.32
CRA-009M 711.32
CRA-008M 711.32
CRA-007M 711.32
CRA-006M 711.32
CRA-005M 711.32
CRA-004M 711.32
CRA-003M 711.32
CRA-002M 711.32
CRA-001M 711.32
GHD-1001M 711.32
GHD-1002M 711.32
GHD-1003M 711.32
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GHD-1005M 711.32
GHD-1006M 711.32
GHD-1007M 711.32
GHD-1008M 711.32
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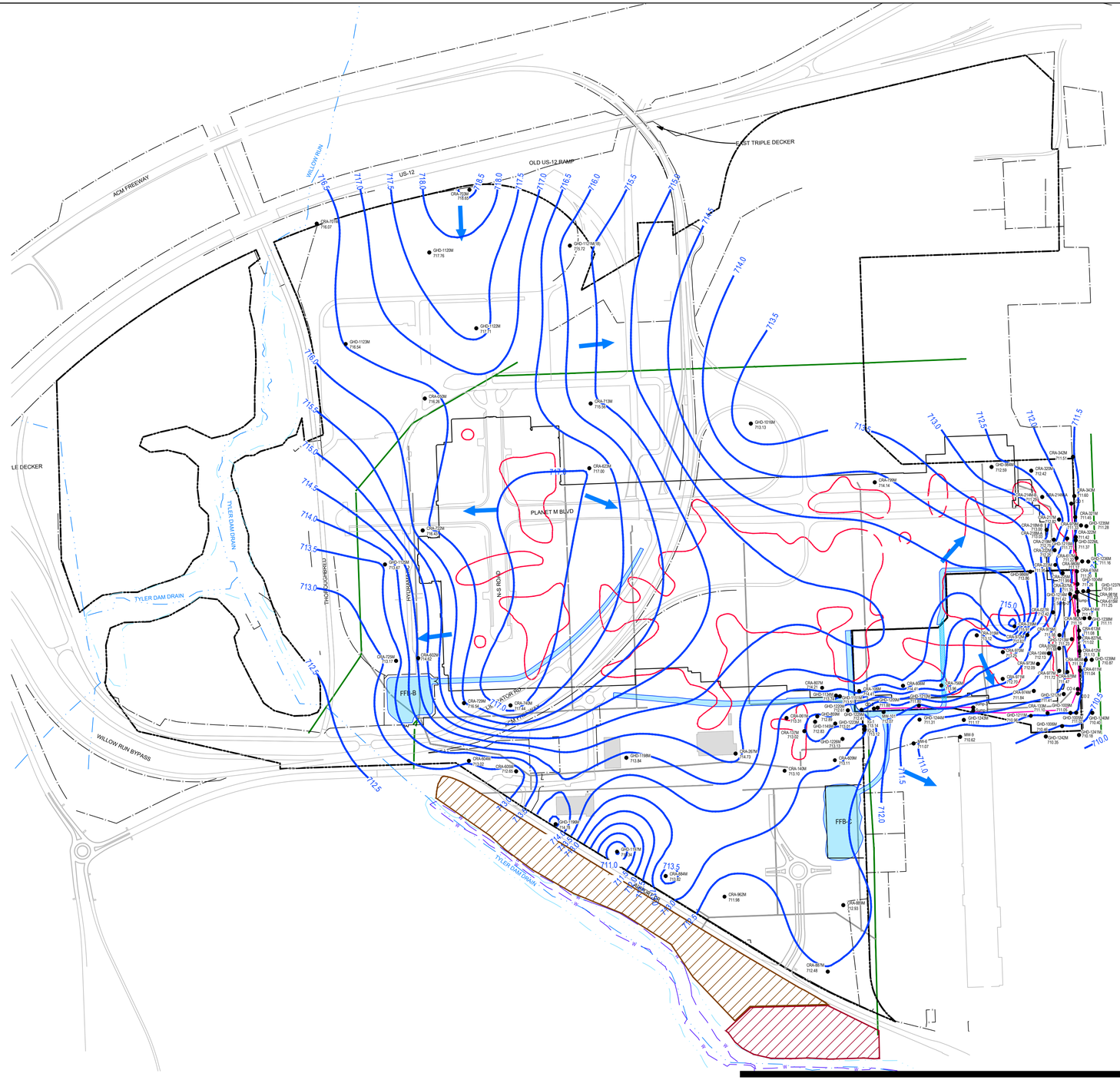

LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER
- FRENCH DRAIN
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 715.0 GROUNDWATER CONTOURS
- CRA-343M EXISTING MONITORING WELL
- 711.60 GROUNDWATER ELEVATION
- SURFACE STORM WATER FEATURES (02-21-2019)
- LNAPL (OCTOBER 2018)
- NO SHALLOW ZONE (CLAY AT SURFACE)
- SHALLOW ZONE DRY
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ★ NOT USED FOR CONTOURING

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET

0 150 300 600 ft

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

SHALLOW GROUNDWATER ZONE CONTOURS - MAY 2023

Project No. **12602792**
Date **June 2023**

FIGURE 4

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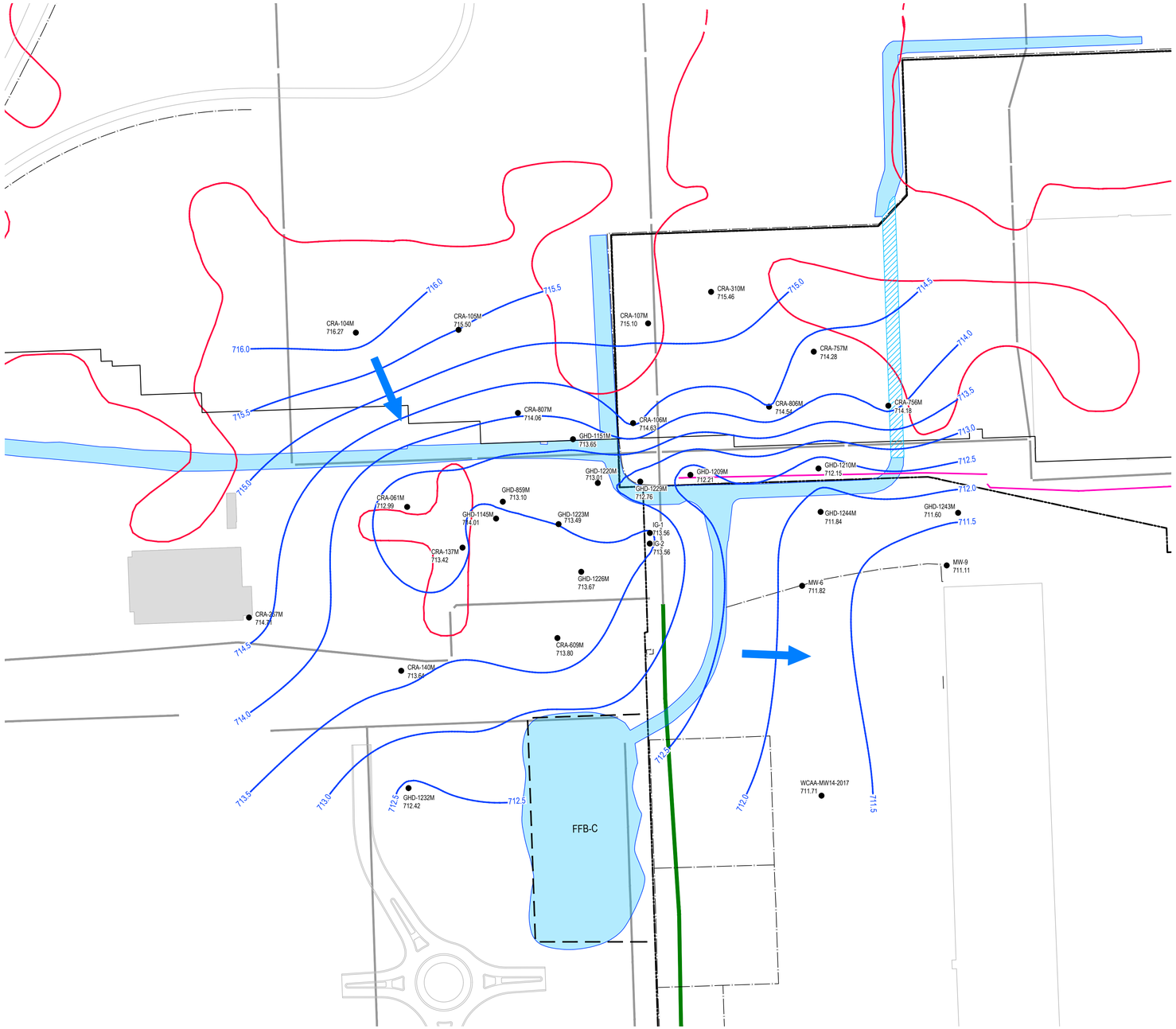

LEGEND

- PROPERTY BOUNDARY
- FRENCH DRAIN
- SLURRY WALL
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 715.00 GROUNDWATER CONTOURS
- CRA-061M EXISTING MONITORING WELL
- 712.99 GROUNDWATER ELEVATION
- SURFACE STORM WATER FEATURES (02-21-2019)
- LNAPL (OCTOBER 2018)
- INTERPRETED GROUNDWATER FLOW DIRECTION

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET
2. GROUNDWATER COLLECTION SYSTEM OFF AUGUST 2023

0 50 100 200 ft

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

SHALLOW GROUNDWATER ZONE
CONTOURS - AUGUST 2023

Project No. **12602792**
Date **February 2024**

FIGURE 3

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\LTR011\12602792-GHD-00-00-LTR-EN-D106_DE011.dwg
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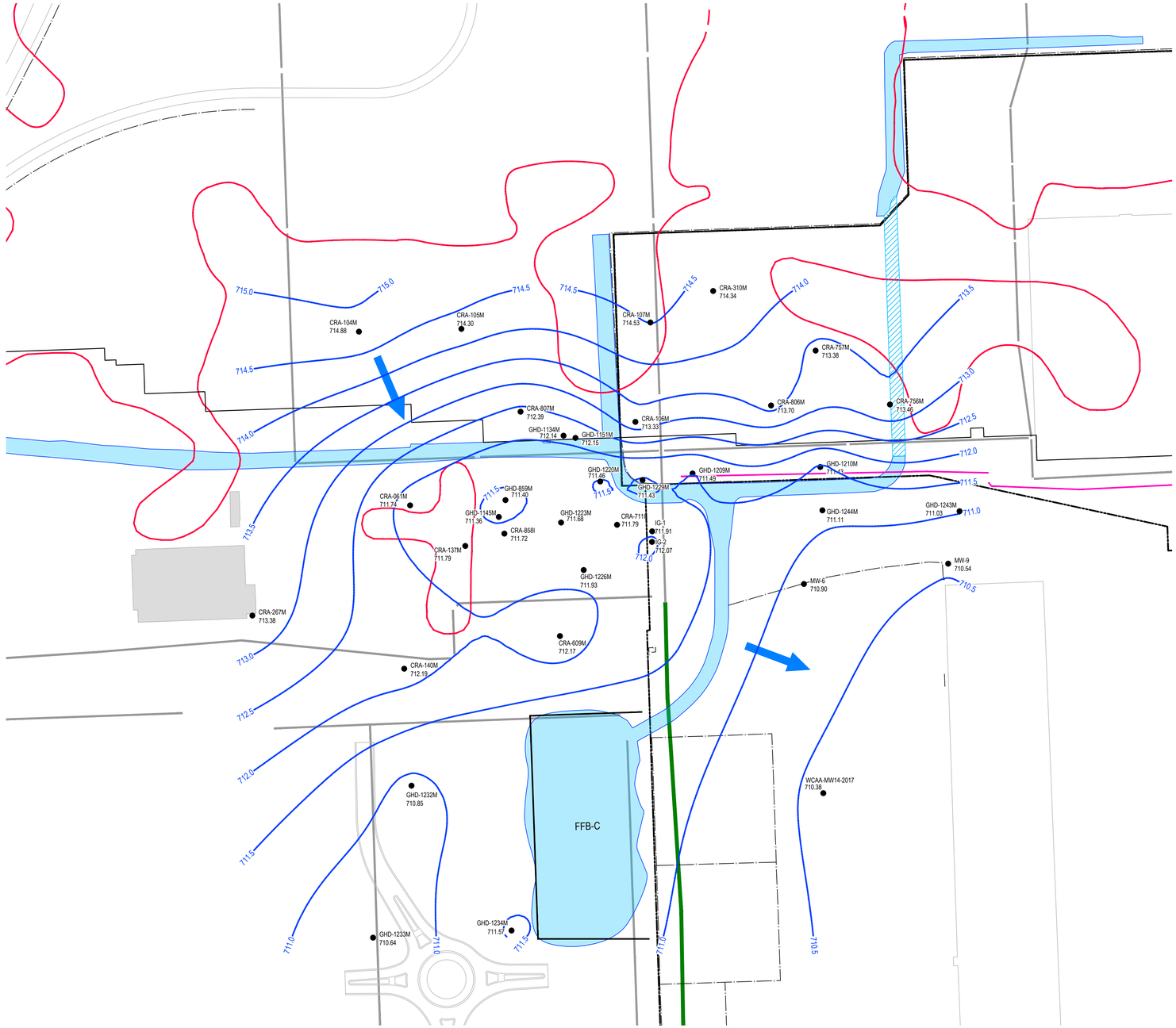

LEGEND

- PROPERTY BOUNDARY
- FRENCH DRAIN
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 715.00 GROUNDWATER CONTOURS
- CRA-061M EXISTING MONITORING WELL
- 711.74 GROUNDWATER ELEVATION
- SURFACE STORM WATER FEATURES (02-21-2019)
- LNAPL (OCTOBER 2018)
- INTERPRETED GROUNDWATER FLOW DIRECTION

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET
2. GROUNDWATER COLLECTION SYSTEM OFF DECEMBER 2023

0 50 100 200 ft

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

SHALLOW GROUNDWATER ZONE
CONTOURS - DECEMBER 2023

Project No. 12602792
Date February 2024

FIGURE 4

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\LTR011\12602792-GHD-00-00-LTR-EN-D102_DE011.dwg
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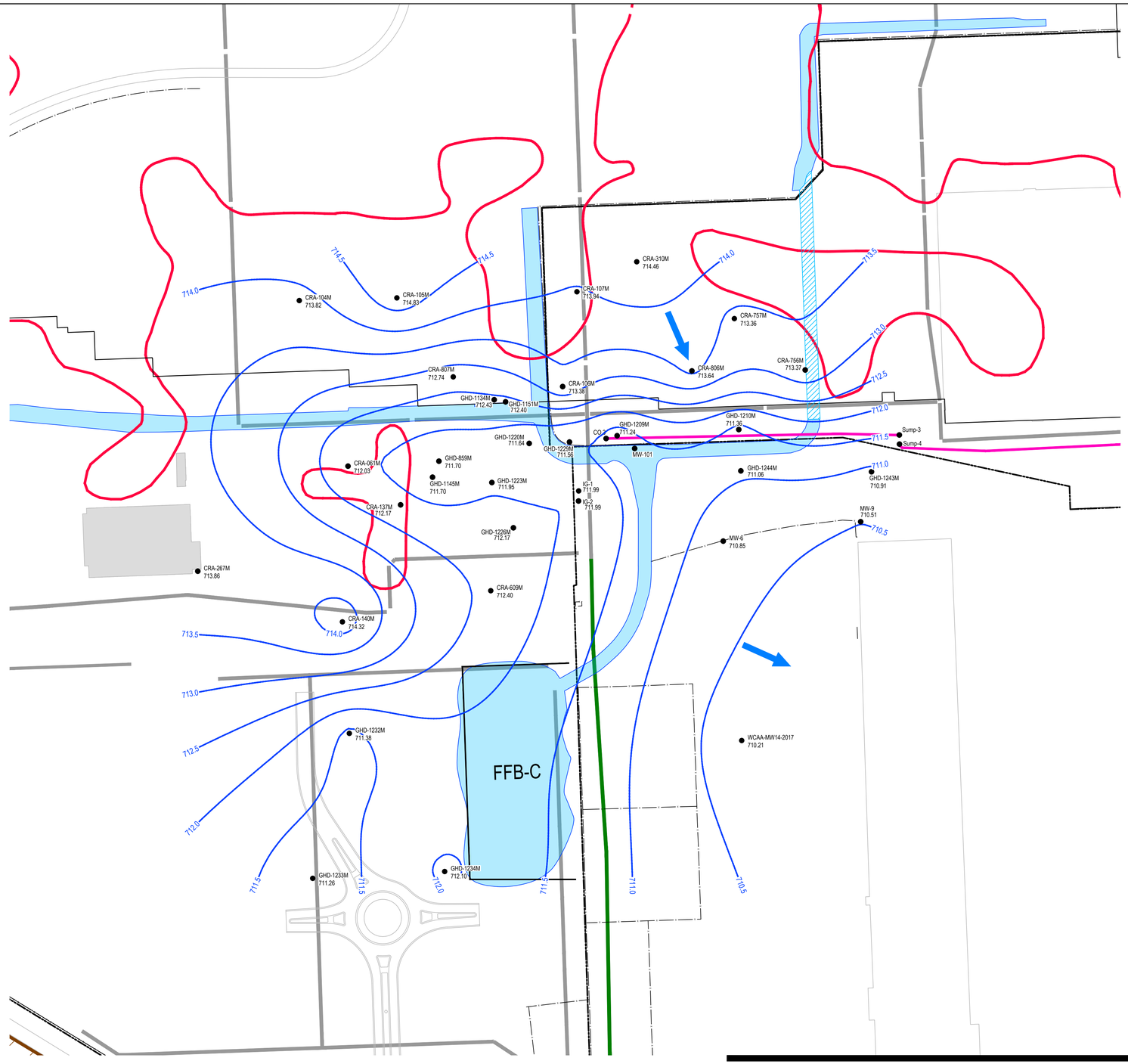

LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER
- FRENCH DRAIN
- TYLER POND AFTER LOWERED (OCT 2017 SURVEY)
- STORM SEWER (MAIN LINES - ACTIVE)
- STORM SEWER (MAIN LINES - INACTIVE)
- 714.0 GROUNDWATER CONTOURS
- CRA-343M EXISTING MONITORING WELL
- 712.03 GROUNDWATER ELEVATION
- SURFACE STORM WATER FEATURES (02-21-2019)
- LNAPL (OCTOBER 2018)
- NO SHALLOW ZONE (CLAY AT SURFACE)
- SHALLOW ZONE DRY
- INTERPRETED GROUNDWATER FLOW DIRECTION
- ★ NOT USED FOR CONTOURING

NOTES:

1. ALL COORDINATES ARE IN INTERNATIONAL FEET

0 50 100 200 ft

N

GHD

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

SHALLOW GROUNDWATER ZONE CONTOURS - MARCH 2024

Project No. 12602792
Date March 2024

FIGURE 1

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\PRE016\12602792-GHD-00-00-PRE-EN-D101_DE-016.dwg
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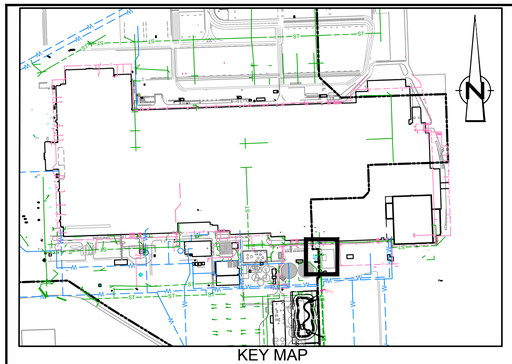
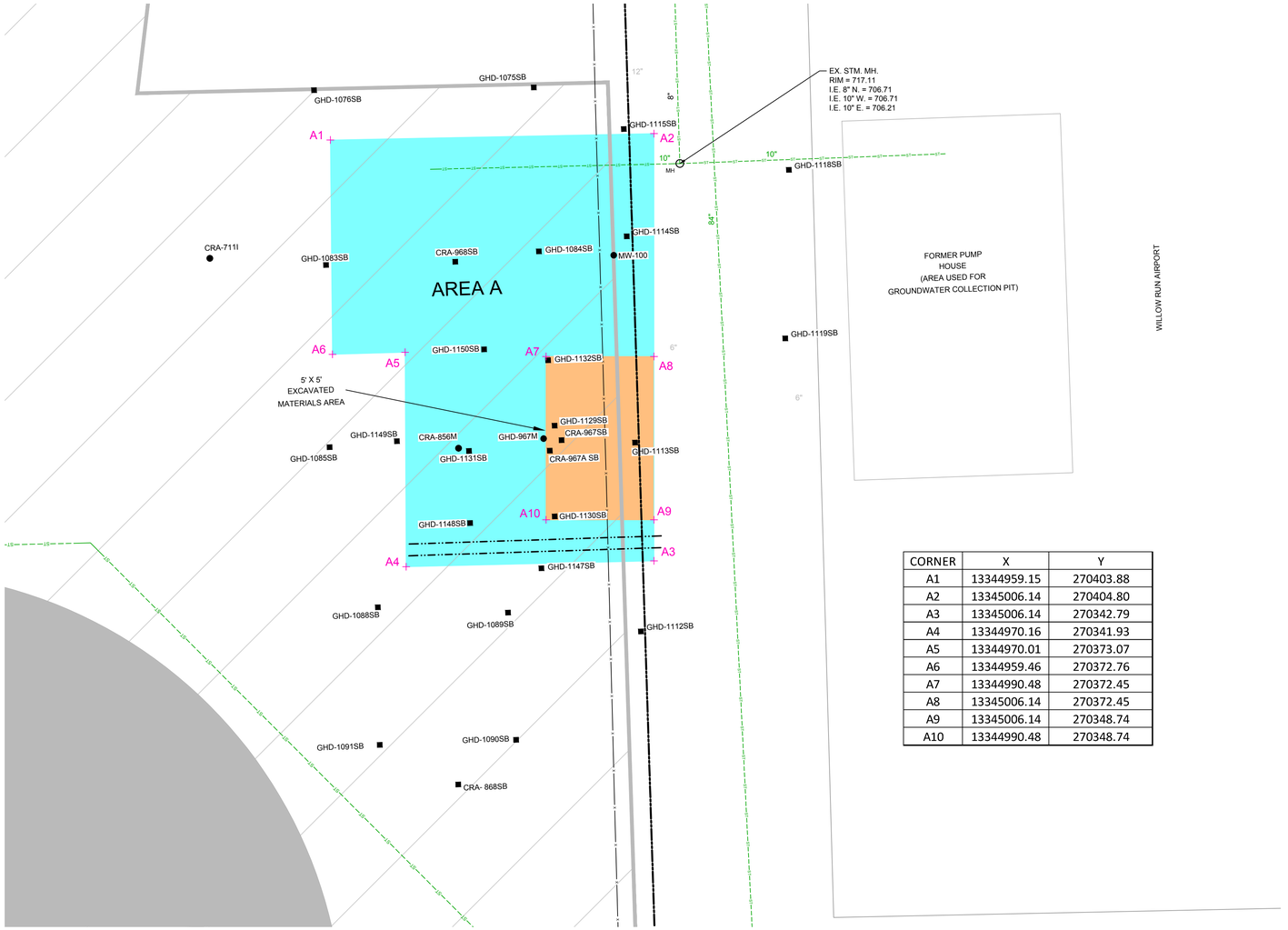
Appendix B

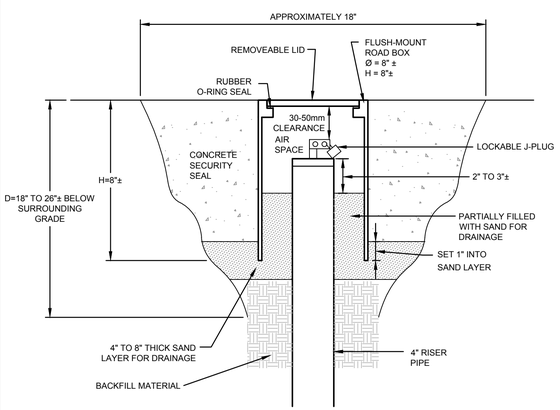
Soil Delineation Data Boxes and Excavation Figure



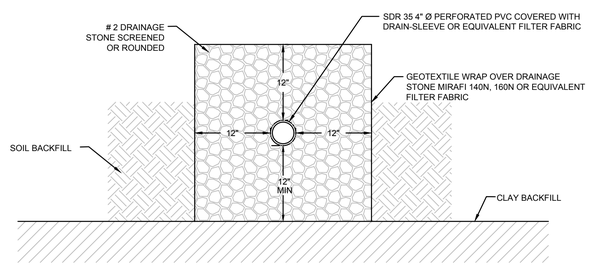
KEY MAP



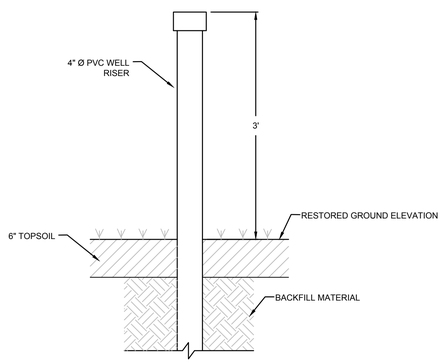
CORNER	X	Y
A1	13344959.15	270403.88
A2	13345006.14	270404.80
A3	13345006.14	270342.79
A4	13344970.16	270341.93
A5	13344970.01	270373.07
A6	13344959.46	270372.76
A7	13344990.48	270372.45
A8	13345006.14	270372.45
A9	13345006.14	270348.74
A10	13344990.48	270348.74



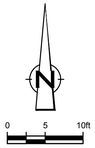
FLUSH MOUNT WELL DETAIL
SCALE: NTS



CROSS SECTION A - A'
TYPICAL WELL DETAIL
SCALE: NTS



PVC STICK-UP DETAIL
SCALE: NTS



LEGEND

- PROPERTY BOUNDARY (ESTIMATED ADAMS AND SON OCTOBER 2016)
- FENCE (AS SURVEYED 7-20-2016)
- CRA-726M EXISTING WELL SHALLOW
- CRA-726I EXISTING WELL INTERMEDIATE
- CRA-726D EXISTING WELL DEEP
- GHD-1074SB SOIL BORING
- PCE RESTRICTION AREA
- EXCAVATION AREA DEPTH OF EXCAVATION 7 FT BGS (2573.7 SQ.FT.)
- EXCAVATION AREA DEPTH OF EXCAVATION 9 FT BGS (371.3 SQ.FT.)
- ELECTRICAL CORRIDOR (INACTIVE)
- SURVEYED STORM SEWER
- WATER
- FIRE
- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND UTILITY STRUCTURE. BASED ON RECENT GPR SCAN.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXCAVATION AND INFILTRATION GALLERY LAYOUT

PCE EXCAVATION REPORT

WILLOW RUN POWERTRAIN
YPSILANTI, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
B.L.	W.B.	NOVEMBER 2018	
Scale: AS SHOWN	Project №: 017358-2018	Report №: 041	Drawing №: figure 3

017358-2018(041)GN-DE003 NOV 13, 2018

GHD-1051SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.12 (j)	0.2 (j)	0.12 (j)	0.078	0.048 U/0.048 U	0.059 U

GHD-1060SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.088	0.057	0.055 U	0.077	0.056 U	0.059 U

GHD-1055SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	11 (ud)	13 (ud)	44 (ud)	25 (ud)	15 (ud)	0.056

CRA-863SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg	8/14/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.044 U	0.042 U	0.52 (j)

GHD-1075SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	1.7 (ud)	4.1 (ud)	0.84 (j)	3.9 (ud)	0.89 (j)	0.051 U

GHD-1071SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.11 (j)	0.29 (j)	0.26 (j)	0.4 (j)	30 (ud)	0.06 U

GHD-1076SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg	8/10/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	0.65 (j)	2.4 (ud)	2.4 (ud)	16 (ud)	30 (ud)	81 (ud)	0.21 J (j)

CRA-854SB	3/21/2013 (0-2) ft BGS mg/kg	3/21/2013 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.032 J	0.1

GHD-1072SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.72 (j)	0.051 U/0.047 U	0.24 (j)	17 (ud)	1.2 (j)	0.039 J

GHD-1077SB	8/9/2016 (1-3) ft BGS mg/kg	8/9/2016 (3-5) ft BGS mg/kg	8/9/2016 (5-7) ft BGS mg/kg	8/9/2016 (7-9) ft BGS mg/kg	8/9/2016 (9-11) ft BGS mg/kg	8/9/2016 (11-13) ft BGS mg/kg	8/9/2016 (13-15) ft BGS mg/kg	8/9/2016 (15-16) ft BGS mg/kg
VOCs								
Tetrachloroethene	1.8 (ud)	1.4 (ud)	12 (ud)	15 (ud)	2.8 (ud)	0.047 U	0.036 J	0.075

GHD-1073SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U	0.055 U	0.055 U	0.062 U	2.5 (ud)	0.061 U

CRA-857SB	3/21/2013 (0-2) ft BGS mg/kg	3/21/2013 (5-7) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.044 U	0.014 J

GHD-1074SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047	0.034 U	0.34 (j)	0.068	0.046 U	0.043 U

GHD-1082SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg	8/10/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	0.36 (j)	1.3 (ud)	3.8 (ud)	19 (ud)	2.4 (ud)	0.045 U	0.048 U

GHD-1076SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.039	0.022 J	0.095	0.18 (j)	13 (ud)	0.031 J

CRA-711I	2/27/2012 (0-2) ft BGS mg/kg	2/27/2012 (5-7) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.045 U/0.047 U	26 (ud)

CRA-757M

GHD-1116SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg
VOCs					
Tetrachloroethene	0.12 (j)	0.31 (j)	0.89 (j)	0.074 J	0.073 U

CRA-806M

GHD-1083SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	7.1 (ud)	0.027 J/0.018 J	3.3 (ud)	0.044 U	0.44 (j)	0.045 U

GHD-1075SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.037 U	2.9 (ud)/1.4 (ud)	3.1 (ud)	0.41 (j)	0.048 U	0.043 U

CRA-968SB	10/24/2014 (1-3) ft BGS mg/kg	10/24/2014 (3-5) ft BGS mg/kg	10/24/2014 (5-6) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.11 (j)	11 (ud)	81 (ud)

GHD-1117SB	10/27/2016 (2.5-3) ft BGS mg/kg	10/27/2016 (4.5-) ft BGS mg/kg	10/27/2016 (6-) ft BGS mg/kg	10/27/2016 (7.75-) ft BGS mg/kg	10/27/2016 (9.5-) ft BGS mg/kg	10/27/2016 (11.5-) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.045 U	0.071 U	0.047 U	0.53 U	0.52 U	0.057 U

GHD-1115SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg	10/27/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.06	0.45 (j)	0.74 (j)	0.3 (j)	0.057 U	0.064 U

GHD-1064SB	8/9/2016 (1-3) ft BGS mg/kg	8/9/2016 (3-5) ft BGS mg/kg	8/9/2016 (5-7) ft BGS mg/kg	8/9/2016 (7-9) ft BGS mg/kg	8/9/2016 (9-11) ft BGS mg/kg	8/9/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.015 J	5.2 (ud)	44 (ud)	6.8 (ud)	0.023 J	0.042 U

GHD-1114SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg	10/27/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	6.1 (ud)	33 (ud)	89 (ud)	20 (ud)	0.83 (j)	0.11 (j)

GHD-1118SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg	10/27/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.055 U	0.047 U	0.051 U	0.25 U	0.53 U	0.055 U

GHD-1119SB	10/27/2016 (1-3) ft BGS mg/kg
VOCs	
Tetrachloroethene	0.045 U

GHD-1132SB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg	11/29/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.061	0.089	8.5 (ud)	2.5 (ud)	0.056 U	0.061 U

GHD-1129SB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg
VOCs					
Tetrachloroethene	18 (ud)	58 (ud)	72 (ud)	21 (ud)	0.042 J

CRA-867SB	10/24/2014 (1-3) ft BGS mg/kg	10/24/2014 (3-5) ft BGS mg/kg	10/24/2014 (5-6) ft BGS mg/kg
VOCs			
Tetrachloroethene	450 (ud/hq)	75 (ud)	84 (ud)

GHD-1113SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg	10/27/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	2.5 (ud)	3.6 (ud)	32 (ud)	66 (ud)	13 (ud)	0.16 (j)

CRA-867ASB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg	11/29/2016 (11-12) ft BGS mg/kg	11/29/2016 (12-13) ft BGS mg/kg
VOCs							
Tetrachloroethene	5.5 (j)	4.2 (ud)	67 (ud)	4.4 (ud)	0.057 U	0.06 U	0.06 U

GHD-1131SB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg	11/29/2016 (11-12.5) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.046 U	15 (ud)	23 (ud)	0.61 (j)	0.28 (j)	0.062 U

CRA-866SB	3/21/2013 (0-2) ft BGS mg/kg	3/21/2013 (3-5) ft BGS mg/kg	3/21/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.044 U	0.043 U	47 (ud)

GHD-1149SB	12/20/2016 (1-3) ft BGS mg/kg	12/20/2016 (3-5) ft BGS mg/kg	12/20/2016 (5-7) ft BGS mg/kg	12/20/2016 (7-9) ft BGS mg/kg	12/20/2016 (9-11) ft BGS mg/kg	12/20/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U	0.1	2 (ud)	0.052 U	0.056 U	0.062 U

GHD-1103SB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg	11/29/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.069	13 (ud)	84 (ud)	7.6 (ud)	0.062 U	

GHD-1147SB	12/20/2016 (1-3) ft BGS mg/kg	12/20/2016 (3-5) ft BGS mg/kg	12/20/2016 (5-7) ft BGS mg/kg	12/20/2016 (7-9) ft BGS mg/kg	12/20/2016 (9-11) ft BGS mg/kg	12/20/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.8 (j)	6.2 (ud)	27 (ud)	4 (ud)	0.057 U/0.052 U	0.062 U

GHD-1112SB	10/27/2016 (1-3) ft BGS mg/kg	10/27/2016 (3-5) ft BGS mg/kg	10/27/2016 (5-7) ft BGS mg/kg	10/27/2016 (7-9) ft BGS mg/kg	10/27/2016 (9-11) ft BGS mg/kg	10/27/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.15 (j)	0.61 (j)	0.55 (j)	0.58 (j)	0.034 J	0.061 U

GHD-1144SB	12/20/2016 (1-3) ft BGS mg/kg	12/20/2016 (3-5) ft BGS mg/kg	12/20/2016 (5-7) ft BGS mg/kg	12/20/2016 (7-9) ft BGS mg/kg	12/20/2016 (9-11) ft BGS mg/kg	12/20/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.063 U	4.2 (ud)	26 (ud)	0.81 (j)	0.057 U	0.06 U

GHD-1085SB	8/9/2016 (1-3) ft BGS mg/kg	8/9/2016 (3-5) ft BGS mg/kg	8/9/2016 (5-7) ft BGS mg/kg	8/9/2016 (7-9) ft BGS mg/kg	8/9/2016 (9-11) ft BGS mg/kg	8/9/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047	0.048 U	0.045 U	0.046 U	0.047 U	0.043 U

GHD-1089SB	9/8/2016 (1-3) ft BGS mg/kg	9/8/2016 (3-5) ft BGS mg/kg	9/8/2016 (5-7) ft BGS mg/kg	9/8/2016 (7-9) ft BGS mg/kg	9/8/2016 (9-11) ft BGS mg/kg	9/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.055 U	0.16 (j)	12 (ud)	0.32 (j)	0.061 U	0.061 U/0.062 U

GHD-1090SB	9/8/2016 (1-3) ft BGS mg/kg	9/8/2016 (3-5) ft BGS mg/kg	9/8/2016 (5-7) ft BGS mg/kg	9/8/2016 (7-9) ft BGS mg/kg	9/8/2016 (9-11) ft BGS mg/kg	9/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.048 U	0.053 U	0.046 U	0.061 U	0.054 U	0.062 U

GHD-1088SB	9/8/2016 (1-3) ft BGS mg/kg	9/8/2016 (3-5) ft BGS mg/kg	9/8/2016 (5-7) ft BGS mg/kg	9/8/2016 (7-9) ft BGS mg/kg	9/8/2016 (9-11) ft BGS mg/kg	9/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.05 U	0.22 (j)	0.062 U	0.061 U	0.061 U

CRA-865SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg	8/14/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.048 U	0.042 U	0.043 U

GHD-1086SB	8/9/2016 (1-3) ft BGS mg/kg	8/9/2016 (3-5) ft BGS mg/kg	8/9/2016 (5-7) ft BGS mg/kg	8/9/2016 (7-9) ft BGS mg/kg	8/9/2016 (9-11) ft BGS mg/kg	8/9/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.070 (ms)	0.11 (j)	0.19 (j)	0.12 (j)	0.048 U	0.042 U

GHD-1091SB	9/8/2016 (1-3) ft BGS mg/kg	9/8/2016 (3-5) ft BGS mg/kg	9/8/2016 (5-7) ft BGS mg/kg	9/8/2016 (7-9) ft BGS mg/kg	9/8/2016 (9-11) ft BGS mg/kg	9/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.058 U	0.05 U	0.073	0.064 U	0.059 U	0.063 U

GHD-1081SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg	8/10/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	1.2 (j)	0.091	12 (ud)	17 (ud)	1.4 (ud)	0.017 J	0.044 U

CRA-855SB	3/21/2013 (1-3) ft BGS mg/kg	3/21/2013 (4-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.093	0.27 (j)

GHD-1080SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	2.5 (ud)	0.23 (j)/0.21 (j)	9.2 (ud)	0.31 (j)	0.035 J	0.042 U

GHD-1087SB	8/9/2016 (1-3) ft BGS mg/kg	8/9/2016 (3-5) ft BGS mg/kg	8/9/2016 (5-7) ft BGS mg/kg	8/9/2016 (7-9) ft BGS mg/kg	8/9/2016 (9-10) ft BGS mg/kg	8/9/2016 (10-11) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.34 (j)	0.3 (j)	0.95 (j)	0.13 (j)	0.037 U	0.043 U

GHD-1078SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.27 (j)	0.83 (j)	0.39 (j)	0.049 U	0.05 U	0.051 U

GHD-1077SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.048 U	0.044 U	0.051 U	0.056 U	0.052 U	0.06 U

GHD-1076SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U	0.047 U	0.049 U	0.057 U	0.052 U	0.059 U

GHD-1074SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.056 U	0.053 U	0.051 U	0.058 U	0.051 U	0.062 U

GHD-1045SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.54 (j)	1.2 (j)	48 (ud)	8.9 (ud)	0.018 J	0.05 U

GHD-1049SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	1.5 (ud)/1.3 (ud)	0.66 (j)	2.4 (ud)	0.2 (j)	0.021 J	0.052 U

GHD-1035SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.048 U	0.044 U	0.051 U	0.056 U	0.052 U	0.06 U

GHD-1039SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.27 (j)	0.83 (j)	0.39 (j)	0.049 U	0.05 U	0.051 U

GHD-1038SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	7.2 (ud)	3.5 (ud)	10 (ud)	1.2 (j)/1.7 (ud)	0.057 U	0.054 U

GHD-1093SB	8/8/2016 (1-3) ft BGS mg/kg	8/8/2016 (3-5) ft BGS mg/kg	8/8/2016 (5-7) ft BGS mg/kg	8/8/2016 (7-9) ft BGS mg/kg	8/8/2016 (9-11) ft BGS mg/kg	8/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.044 U	0.045 U	0.048 U	0.047 U	0.051 U	0.058 U

CRA-861SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg	8/14/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.4 (j)	0.055 U	2.6 (ud)

CRA-869SB	8/13/2013 (1-3) ft BGS mg/kg	8/13/2013 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.043 U	0.039 U/0.02 J

GHD-1094SB	8/8/2016 (1-3) ft BGS mg/kg	8/8/2016 (3-5) ft BGS mg/kg	8/8/2016 (5-7) ft BGS mg/kg	8/8/2016 (7-9) ft BGS mg/kg	8/8/2016 (9-10) ft BGS mg/kg
VOCs					
Tetrachloroethene	0.047	0.12 (j)	0.055 U	0.055 U	0.058 U

CRA-862SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg	8/14/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	2.9 (ud)	3 (ud)/3.6 (ud)	3.5 (ud)

GHD-1092SB	8/8/2016 (1-3) ft BGS mg/kg	8/8/2016 (3-5) ft BGS mg/kg	8/8/2016 (5-7) ft BGS mg/kg	8/8/2016 (7-9) ft BGS mg/kg	8/8/2016 (9-11) ft BGS mg/kg	8/8/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U/0.052 U	0.052 U	0.045 U	0.047 U	0.054 U	0.056 U

GHD-1033SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047 U	0.05 U	0.048 U	0.057 U	0.055 U	0.059 U/0.059 U

GHD-1034SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.056 U	0.053 U	0.051 U	0.058 U	0.051 U	0.062 U

CRA-858SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg	8/14/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	12 (ud)	13 (ud)	49 (ud)

GHD-1031SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.048 U	0.053 U	0.044 U	0.048 U	0.054 U	0.059 U

GHD-1032SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	7.5 (ud)	5.7 (ud)	6.7 (ud)	27 (ud)	0.049 U	0.057 U

GHD-1040SB	8/3/2016 (1-3) ft BGS mg/kg	8/3/2016 (3-5) ft BGS mg/kg	8/3/2016 (5-7) ft BGS mg/kg	8/3/2016 (7-9) ft BGS mg/kg	8/3/2016 (9-11) ft BGS mg/kg	8/3/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	14 (ud)	8.9 (ud)	5.4 (ud)	160 (ud/hq)	1.8 (ud)/2.8 (ud)	0.024 J

CRA-866SB	10/23/2014 (1-3) ft BGS mg/kg	10/23/2014 (3-5) ft BGS mg/kg	10/23/2014 (5-6) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.06 U	0.055 U	4.2 (ud)

CRA-867SB	8/14/2013 (1-3) ft BGS mg/kg	8/14/2013 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.046 U/0.042 U	0.042 U

GHD-1030SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.045 U	0.051 U	0.046 U	0.052 U	0.056 U	0.057 U

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GHD-1105SB	10/28/2016 (2.5-) ft BGS mg/kg	10/28/2016 (4.5-) ft BGS mg/kg	10/28/2016 (6.5-) ft BGS mg/kg	10/28/2016 (8.5-) ft BGS mg/kg	10/28/2016 (9.5-) ft BGS mg/kg	10/28/2016 (11.5-) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.044 U	0.24 (c)	0.82 (c)	260 (ol/hq)	120 (ol/hq)	0.26 J (c)

GHD-1179SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.047 U	0.044 U	0.054 U	0.054 U	0.054 U/0.054 U

GHD-1162SB	1/17/2017 (1-3) ft BGS mg/kg	1/17/2017 (3-5) ft BGS mg/kg	1/17/2017 (5-7) ft BGS mg/kg	1/17/2017 (7-9) ft BGS mg/kg	1/17/2017 (9-11) ft BGS mg/kg	1/17/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.55 (c)	1.5 (ol)	0.57 (c)/0.44 (c)	0.78 (c)	0.054 U	0.063 U

GHD-1163SB	1/17/2017 (1-3) ft BGS mg/kg	1/17/2017 (3-5) ft BGS mg/kg	1/17/2017 (5-7) ft BGS mg/kg	1/17/2017 (7-9) ft BGS mg/kg	1/17/2017 (9-11) ft BGS mg/kg	1/17/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047 U	0.048 U	0.12 (c)	0.057 U	0.056 U	0.06 U

GHD-1169SB	1/18/2017 (1-3) ft BGS mg/kg	1/18/2017 (3-5) ft BGS mg/kg	1/18/2017 (5-7) ft BGS mg/kg	1/18/2017 (7-9) ft BGS mg/kg	1/18/2017 (9-11) ft BGS mg/kg	1/18/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	5.3 (ol)	2.7 (ol)/2.5 (ol)	58 (ol)	62 (ol)	0.055 U	0.06 U

GHD-1157SB	12/21/2016 (1-3) ft BGS mg/kg	12/21/2016 (3-5) ft BGS mg/kg	12/21/2016 (5-7) ft BGS mg/kg	12/21/2016 (7-9) ft BGS mg/kg	12/21/2016 (9-11) ft BGS mg/kg	12/21/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	1400 (ol/hq)	720 (ol/hq)	110 (ol/hq)	39 (ol/f)/4 (ol/f)	0.043 J	0.062 U

GHD-1143SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047 U	0.064	0.53 (c)	6.1 (ol)	200 (ol/hq)	0.76 (c)

GHD-1180SB	8/4/2016 (1-3) ft BGS mg/kg	8/4/2016 (3-5) ft BGS mg/kg	8/4/2016 (5-7) ft BGS mg/kg	8/4/2016 (7-9) ft BGS mg/kg	8/4/2016 (9-11) ft BGS mg/kg	8/4/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.11 (c)	0.52 (c)	9.9 (ol)	180 (ol/hq)	0.061

GHD-1170SB	1/19/2017 (1-3) ft BGS mg/kg	1/19/2017 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.049 U	0.072

GHD-1168SB	1/18/2017 (1-3) ft BGS mg/kg	1/18/2017 (3-5) ft BGS mg/kg	1/18/2017 (5-7) ft BGS mg/kg	1/18/2017 (7-9) ft BGS mg/kg	1/18/2017 (9-11) ft BGS mg/kg	1/18/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	54 (ol/f)	25 (ol/f)	120 (ol/hq)	64 (ol/f)	0.058 U	0.061 U

GHD-1158SB	12/21/2016 (1-3) ft BGS mg/kg	12/21/2016 (3-5) ft BGS mg/kg	12/21/2016 (5-7) ft BGS mg/kg	12/21/2016 (7-9) ft BGS mg/kg	12/21/2016 (9-11) ft BGS mg/kg	12/21/2016 (11-13) ft BGS mg/kg	12/21/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	8.2 (ol)	1.6 (ol)	43 (ol/f)	17 (ol/f)	0.058 U	0.059 U	0.063 U

GHD-1142SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-13) ft BGS mg/kg	12/1/2016 (11.25-12) ft BGS mg/kg
VOCs							
Tetrachloroethene	0.047 U	0.038 J	0.34 (c)	89 (ol/hq)	70 (ol/f)	2.5 (ol)	

GHD-1141SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11.25-12) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.033 J	0.048 U	1.1 (c)	10 (ol)	150 (ol/hq)	0.47 (c)

GHD-1144SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-13) ft BGS mg/kg	12/1/2016 (13.25-14.25) ft BGS mg/kg
VOCs							
Tetrachloroethene	0.051 U	0.024 J	0.17 (c)	76 (ol/f)	120 (ol/hq)	1.1 (c)	0.057 U

GHD-1174SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.037 J	0.047 U	0.068	0.055 U	0.053 U	0.059 U

GHD-1176SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.044 U	0.049 U	0.051 U	0.047 U	0.048 U

GHD-1139SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11.25-12) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.057 U	0.048 U	0.38 (c)	1.8 (ol)	5.8 (ol)	0.11 (c)

GHD-1140SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-12) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.046 U	0.036 J	0.055 U	0.057 U	26 (ol/f)	0.083

GHD-1056SB	8/2/2016 (1-3) ft BGS mg/kg	8/2/2016 (3-5) ft BGS mg/kg	8/2/2016 (5-7) ft BGS mg/kg	8/2/2016 (7-9) ft BGS mg/kg	8/2/2016 (9-11) ft BGS mg/kg	8/2/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.046 U	0.053 U	0.047 U	0.056 U	0.056 U

GHD-1135SB	12/2/2016 (1-1.5) ft BGS mg/kg	12/2/2016 (4.5-6) ft BGS mg/kg	12/2/2016 (6-8) ft BGS mg/kg	12/2/2016 (8.5-9.5) ft BGS mg/kg	12/2/2016 (10-11) ft BGS mg/kg	12/2/2016 (11.5-11.75) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.051 U	0.043 U	0.053 U	0.054 U	13 (ol)	0.13 (c)

GHD-1055SB	8/1/2016 (1-3) ft BGS mg/kg	8/1/2016 (3-5) ft BGS mg/kg	8/1/2016 (5-7) ft BGS mg/kg	8/1/2016 (7-9) ft BGS mg/kg	8/1/2016 (9-11) ft BGS mg/kg	8/1/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.05 U	0.052 U	0.053 U	0.052 U	0.091 U	0.057 U/0.061 U

GHD-1137SB	12/2/2016 (2.5-2.5) ft BGS mg/kg	12/2/2016 (4.5-4.5) ft BGS mg/kg	12/2/2016 (6.5-6.5) ft BGS mg/kg	12/2/2016 (8-8) ft BGS mg/kg	12/2/2016 (10-10) ft BGS mg/kg	12/2/2016 (12.5-12.5) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.08	0.19 (c)	0.065	1.1 (c)	0.044 U	0.06 U

GHD-1136SB	10/28/2016 (2.5-) ft BGS mg/kg	10/28/2016 (4.5-) ft BGS mg/kg	10/28/2016 (5.5-) ft BGS mg/kg	10/28/2016 (7-) ft BGS mg/kg	10/28/2016 (9-) ft BGS mg/kg	10/28/2016 (13-) ft BGS mg/kg
VOCs						
Tetrachloroethene	5.1 (ol)	34 (ol/f)	120 (ol/hq)	20 (ol)	36 (ol/f)	2.1 (ol)

GHD-1133SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-12) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.046 U	0.036 J	0.055 U	0.057 U	26 (ol/f)	0.083

GHD-1134SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.049 U	0.044 U	0.044 U	0.054 U	0.054 U	0.054 U/0.054 U

GHD-1180SB	8/4/2016 (1-3) ft BGS mg/kg	8/4/2016 (3-5) ft BGS mg/kg	8/4/2016 (5-7) ft BGS mg/kg	8/4/2016 (7-9) ft BGS mg/kg	8/4/2016 (9-11) ft BGS mg/kg	8/4/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.045 U	0.042 U	0.37 (bc)	0.052 U	0.055 U	0.06 U/0.06 U

GHD-1163SB	8/4/2016 (1-3) ft BGS mg/kg	8/4/2016 (3-5) ft BGS mg/kg	8/4/2016 (5-7) ft BGS mg/kg	8/4/2016 (7-9) ft BGS mg/kg	8/4/2016 (9-11) ft BGS mg/kg	8/4/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.041 U	0.051 J	0.048 U	0.049 U	0.063 U	0.065 U

GHD-1165SB	1/16/2017 (1-3) ft BGS mg/kg	1/16/2017 (3-5) ft BGS mg/kg	1/16/2017 (5-7) ft BGS mg/kg	1/16/2017 (7-9) ft BGS mg/kg	1/16/2017 (9-11) ft BGS mg/kg	1/16/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.042 U	5.5 (ol)	51 (ol/f)	47 (ol/f)	19 (ol)	0.061 U

GHD-1172SB	1/18/2017 (1-3) ft BGS mg/kg	1/18/2017 (3-5) ft BGS mg/kg	1/18/2017 (5-7) ft BGS mg/kg	1/18/2017 (7-9) ft BGS mg/kg	1/18/2017 (9-11) ft BGS mg/kg	1/18/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	2.4 (ol)	23 (ol/f)	21 (ol)	180 (ol/hq)	49 (ol/f)	0.089

GHD-1167SB	1/16/2017 (1-3) ft BGS mg/kg	1/16/2017 (3-5) ft BGS mg/kg	1/16/2017 (5-7) ft BGS mg/kg	1/16/2017 (7-9) ft BGS mg/kg	1/16/2017 (9-11) ft BGS mg/kg	1/16/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	2.8 (ol)	14 (ol)	12 (ol)	220 (ol/hq)	280 (ol/hq)	0.22 (c)/0.22 J (c)

GHD-1171SW	1/19/2017 (1-3) ft BGS mg/kg	1/19/2017 (3-5) ft BGS mg/kg	1/19/2017 (5-7) ft BGS mg/kg	1/19/2017 (7-9) ft BGS mg/kg	1/19/2017 (9-11) ft BGS mg/kg	1/19/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	51 (ol/f)	33 (ol/f)	120 (ol/hq)	200 (ol/hq)	310 (ol/hq)/370 (ol/hq)	0.093 J

GHD-1183SB	2/24/2017 (2-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.25 (bc)	0.8 (bc)	0.89 (bc)	69 (bc/ol/f)	61 (bc/ol/f)	0.07

GHD-1159SB	12/20/2016 (1-3) ft BGS mg/kg	12/20/2016 (3-5) ft BGS mg/kg	12/20/2016 (5-7) ft BGS mg/kg	12/20/2016 (7-9) ft BGS mg/kg	12/20/2016 (9-11) ft BGS mg/kg	12/20/2016 (11-13) ft BGS mg/kg	12/20/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	120 (ol/hq)	55 (ol/f)	120 (ol/hq)	370 (ol/hq)	280 (ol/hq)	0.41 (c)	

GHD-1154SB	12/22/2016 (1-3) ft BGS mg/kg	12/22/2016 (3-5) ft BGS mg/kg	12/22/2016 (5-7) ft BGS mg/kg	12/22/2016 (7-9) ft BGS mg/kg	12/22/2016 (9-11) ft BGS mg/kg	12/22/2016 (11-13) ft BGS mg/kg	12/22/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	120 (ol/hq)	85 (ol/f)	160 (ol/hq)	75 (ol/f)	0.03 J	0.055 U	0.061 U

GHD-1155SB	12/22/2016 (1-3) ft BGS mg/kg	12/22/2016 (3-5) ft BGS mg/kg	12/22/2016 (5-7) ft BGS mg/kg	12/22/2016 (7-9) ft BGS mg/kg	12/22/2016 (9-11) ft BGS mg/kg	12/22/2016 (11-13) ft BGS mg/kg	12/22/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	15 (ol)	43 (ol/f)	310 (ol/hq)	84 (ol/f)	0.055 U	0.052 J	0.061 U

GHD-1181SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.062 U	0.041 U	0.024 J	0.055 U	0.053 U	0.055 U/0.057 U

GHD-1136SB	12/1/2016 (1-3) ft BGS mg/kg	12/1/2016 (3-5) ft BGS mg/kg	12/1/2016 (5-7) ft BGS mg/kg	12/1/2016 (7-9) ft BGS mg/kg	12/1/2016 (9-11) ft BGS mg/kg	12/1/2016 (12-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	55 (ol/f)	62 (ol/f)	370 (ol/hq)	390 (ol/hq)	14 (ol)	17 (ol)

GHD-1165SB	1/16/2017 (1-3) ft BGS mg/kg	1/16/2017 (3-5) ft BGS mg/kg	1/16/2017 (5-7) ft BGS mg/kg	1/16/2017 (7-9) ft BGS mg/kg	1/17/2017 (9-11) ft BGS mg/kg	1/17/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.042 U	5.5 (ol)	51 (ol/f)	47 (ol/f)	19 (ol)	0.061 U

GHD-1182SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047 U	0.044 U	0.062	0.032 J	0.03 J	0.058 U

GHD-1174SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047	0.034 U	0.34 (c)	0.068	0.046 U	0.043 U

GHD-1067SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.037 J	0.057	0.05 U	0.058 U	0.057 U/0.056 U	0.058 U

GHD-1151SB	12/21/2016 (1-3) ft BGS mg/kg	12/21/2016 (3-5) ft BGS mg/kg	12/21/2016 (5-7) ft BGS mg/kg	12/21/2016 (7-9) ft BGS mg/kg	12/21/2016 (9-11) ft BGS mg/kg	12/21/2016 (11-13) ft BGS mg/kg	12/21/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	31 (ol/f)	77 (ol/f)	64 (ol/f)	300 (ol/hq)	410 (ol/hq)	87000 (ol/hq)(c)	9.8 (ol)/4.8 (ol)

GHD-1170SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.045 U	0.053 U	0.049 U	0.052 U	0.054 U	0.061 U

GHD-1073SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U	0.055 U	0.055 U	0.062 U	2.5 (ol)	0.061 U

GHD-1068SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.099	0.049 U	0.064 U	0.054 U	0.056 U	0.058 U

CRA-8545B	3/21/2013 (0-2.5) ft BGS mg/kg	3/21/2013 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.032 J	0.1

GHD-1072SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.72 (c)	0.051 U/0.047 U	0.24 (c)	17 (ol)	1.2 (c)	0.039 J

GHD-1175TW	1/19/2017 (1-3) ft BGS mg/kg	1/19/2017 (3-5) ft BGS mg/kg	1/19/2017 (5-7) ft BGS mg/kg	1/19/2017 (7-9) ft BGS mg/kg	1/19/2017 (9-11) ft BGS mg/kg	1/19/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.053	1.2 (c)	6.5 (ol)	0.28 U	120 (ol/hq)	0.06 U

GHD-1134M	12/27/2016 (15-16) ft BGS mg/kg
VOCs	
Tetrachloroethene	0.11 (c)

GHD-1071SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.11 (c)	0.28 (c)	0.28 (c)	0.4 (c)	30 (ol/f)	0.06 U

GHD-1069SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.051 U	0.044 U	0.05 U	0.053 U	0.058 U	0.062 U

GHD-1133SB	11/29/2016 (1-3) ft BGS mg/kg	11/29/2016 (3-5) ft BGS mg/kg	11/29/2016 (5-7) ft BGS mg/kg	11/29/2016 (7-9) ft BGS mg/kg	11/29/2016 (9-11) ft BGS mg/kg	11/29/2016 (11-13) ft BGS mg/kg	11/29/2016 (13-15) ft BGS mg/kg	11/29/2016 (15-16) ft BGS mg/kg
VOCs								
Tetrachloroethene	0.13 (c)	0.69 (c)	0.3 (c)	1.1 (c)	17 (ol)	15 (ol)	0.071	0.055 U

GHD-1174TW	1/19/2017 (1-3) ft BGS mg/kg	1/19/2017 (3-5) ft BGS mg/kg	1/19/2017 (5-7) ft BGS mg/kg	1/19/2017 (7-9) ft BGS mg/kg	1/19/2017 (9-11) ft BGS mg/kg	1/19/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	18 (ol)	8.8 (ol)	17 (ol)	150 (ol/hq)	250 (ol/hq)	0.84 (c)

GHD-1065SB	8/4/2016 (1-3) ft BGS mg/kg	8/4/2016 (3-5) ft BGS mg/kg	8/4/2016 (5-7) ft BGS mg/kg	8/4/2016 (7-9) ft BGS mg/kg	8/4/2016 (9-11) ft BGS mg/kg
VOCs					
Tetrachloroethene	0.051 J	0.049 U			

CRA-8665B	8/13/2013 (1-3) ft BGS mg/kg	8/13/2013 (3-5) ft BGS mg/kg	8/13/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.043 U	0.039 U	0.044 U

CRA-8655B	8/13/2013 (1-3) ft BGS mg/kg	8/13/2013 (3-5) ft BGS mg/kg	8/13/2013 (5-7) ft BGS mg/kg
VOCs			
Tetrachloroethene	0.041 U	0.044 U	0.046 U

GHD-1165SB	8/4/2016 (1-3) ft BGS mg/kg	8/4/2016 (3-5) ft BGS mg/kg	8/4/2016 (5-7) ft BGS mg/kg	8/4/2016 (7-9) ft BGS mg/kg	8/4/2016 (9-11) ft BGS mg/kg
VOCs					
Tetrachloroethene	0.051 J	0.043 J	0.31 (c)	0.13 (c)	66 (ol/f)/0.099 U

GHD-1175SB	2/24/2017 (1-3) ft BGS mg/kg	2/24/2017 (3-5) ft BGS mg/kg	2/24/2017 (5-7) ft BGS mg/kg	2/24/2017 (7-9) ft BGS mg/kg	2/24/2017 (9-11) ft BGS mg/kg	2/24/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.051 U	0.046 U	0.052 U	0.058 U	0.052 U	0.051 U

GHD-1074SB	8/10/2016 (1-3) ft BGS mg/kg	8/10/2016 (3-5) ft BGS mg/kg	8/10/2016 (5-7) ft BGS mg/kg	8/10/2016 (7-9) ft BGS mg/kg	8/10/2016 (9-11) ft BGS mg/kg	8/10/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.047	0.034 U	0.34 (c)	0.068	0.046 U	0.043 U

GHD-1067SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.037 J	0.057	0.05 U	0.058 U	0.057 U/0.056 U	0.058 U

GHD-1151SB	12/21/2016 (1-3) ft BGS mg/kg	12/21/2016 (3-5) ft BGS mg/kg	12/21/2016 (5-7) ft BGS mg/kg	12/21/2016 (7-9) ft BGS mg/kg	12/21/2016 (9-11) ft BGS mg/kg	12/21/2016 (11-13) ft BGS mg/kg	12/21/2016 (13-15) ft BGS mg/kg
VOCs							
Tetrachloroethene	31 (ol/f)	77 (ol/f)	64 (ol/f)	300 (ol/hq)	410 (ol/hq)	87000 (ol/hq)(c)	9.8 (ol)/4.8 (ol)

GHD-1170SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.045 U	0.053 U	0.049 U	0.052 U	0.054 U	0.061 U

GHD-1073SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.054 U	0.055 U	0.055 U	0.062 U	2.5 (ol)	0.061 U

GHD-1068SB	8/5/2016 (1-3) ft BGS mg/kg	8/5/2016 (3-5) ft BGS mg/kg	8/5/2016 (5-7) ft BGS mg/kg	8/5/2016 (7-9) ft BGS mg/kg	8/5/2016 (9-11) ft BGS mg/kg	8/5/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.099	0.049 U	0.064 U	0.054 U	0.056 U	0.058 U

CRA-8545B	3/21/2013 (0-2.5) ft BGS mg/kg	3/21/2013 (3-5) ft BGS mg/kg
VOCs		
Tetrachloroethene	0.032 J	0.1

GHD-1072SB	8/11/2016 (1-3) ft BGS mg/kg	8/11/2016 (3-5) ft BGS mg/kg	8/11/2016 (5-7) ft BGS mg/kg	8/11/2016 (7-9) ft BGS mg/kg	8/11/2016 (9-11) ft BGS mg/kg	8/11/2016 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.72 (c)	0.051 U/0.047 U	0.24 (c)	17 (ol)	1.2 (c)	0.039 J

GHD-1175TW	1/19/2017 (1-3) ft BGS mg/kg	1/19/2017 (3-5) ft BGS mg/kg	1/19/2017 (5-7) ft BGS mg/kg	1/19/2017 (7-9) ft BGS mg/kg	1/19/2017 (9-11) ft BGS mg/kg	1/19/2017 (11-13) ft BGS mg/kg
VOCs						
Tetrachloroethene	0.053	1.2 (c)	6.5 (ol)	0.28 U	120 (ol

	MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)						
	Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
Volatile Organic Compounds (VOCs)(mg/L)	a	b	c	d	e	f	g
Tetrachloroethene	0.005	0.005	0.06	25	170	200	ID
Trichloroethene	0.005	0.005	0.2	2.2	4.9	1100	ID

MW-101	11/3/2014 mg/L
VOCs	
cis-1,2-Dichloroethene	0.002 U
Tetrachloroethene	0.002 U
Trichloroethene	0.002 U
Vinyl chloride	0.002 U

MW-7	11/3/2014 mg/L
VOCs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

MW-102	11/3/2014 mg/L
VOCs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

MW-9	11/3/2014 mg/L
VOCs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

MW-3(86-3)	11/3/2014 mg/L
VOCs	
cis-1,2-Dichloroethene	0.001 U/0.001 U
Tetrachloroethene	0.001 U/0.001 U
Trichloroethene	0.001 U/0.001 U
Vinyl chloride	0.001 U/0.001 U

CRA-087M (0.0000) (0.0000)
CRA-241M
CRA-012R
CRA-252R
CRA-085M
CRA-084M
CRA-007T
CRA-086M
CRA-076M
CRA-097M
CRA-098M
CRA-096M
CRA-095M (0.0000) (0.0000)
CRA-094M (0.0000) (0.0000)
CRA-804M (0.0000) (0.0029)
CRA-110M (0.0000) (0.0056)
CRA-099M
CRA-089M
CRA-091M
CRA-092M
CRA-312M
CRA-313M
CRA-314M (0.0000) (0.0000)
CRA-090M
CRA-089R
CRA-245R
CRA-011R
CRA-103M (0.0000) (0.0000)
CRA-309M
CRA-102M
CRA-008T
CRA-101M (0.001 U) (0.001 U)
CRA-108M
CRA-109M (0.0000) (0.0000)
CRA-311M (0.0000) (0.0180)
CRA-805M (0.0000) (0.0000)
CRA-310M
CRA-010R
CRA-013R
CRA-009R
CRA-100M
CRA-308M (0.0000) (0.0000)
CRA-104M (0.001 U) (0.001 U)
CRA-105M (0.005 U) (0.005 U)
CRA-808M (0.0000) (0.0000)
CRA-236M (0.001 U) (0.001 U)
CRA-107M (0.001 U) (0.001 U)
CRA-018T
CRA-757M (0.04 U) (0.04 U)
CRA-806M (0.02 U) (0.0072 J)
CRA-791M (0.0000) (0.0000)
CRA-807M (0.17) (0.0042 J)
GHD-1173TW (32.0) (4.8)
GHD-1151M (96) (3.1)
GHD-1134M (2.1) (2.1)
CRA-106M (0.023) (0.013 U)
GHD-1174TW (14.0) (1.4)
GHD-1175TW (23.0) (2.0)
CRA-059M
CRA-064M
CRA-263M (0.0000) (0.0000)
CRA-327M (0.0033 U) (0.0033 U)
CRA- 864SB (0.0000) (0.0016)
CRA- 866SB (0.0000) (0.0000)
CRA-865SB (0.0000) (0.0000)
CRA-618M (0.001 U) (0.0076)
CRA-326M (0.0000) (0.0032)
GHD-1160M (0.0011) (0.001 U)
CRA-325M (0.001 U) (0.001 U)
CRA-248M (0.0000) (0.0000)
CRA-249M (0.0000) (0.0000)
CRA-062M
CRA-860SB (0.0000) (0.0310)
CRA-863SB (0.0980) (0.0016)
GHD-859M (0.1) (0.13)
CRA-859SB (16.0000) (0.0000)
GHD-1145M (3) (0.58)
CRA-861SB (0.0059) (0.0000)
CRA-858SB (0.8500) (0.4800)
CRA-862SB (0.0077) (0.0000)
CRA-867SB (0.0009) (0.0003)
CRA-137M (0.0033 U) (0.0033 U)
MW-11 (0.0000) (0.0000)
MW-5 (0.00055 J) (0.001 U)
MW-101
MW-7
MW-105 (NOT FOUND)
MW-104 (DAMAGED)
MW-106 (NOT FOUND)
MW-100 (0.21) (0.28)
MW-102
MW-103 (DAMAGED)
MW-6 (NOT FOUND)
MW-9
MW-3
CRA-856M (0.055) (0.0031)
GHD-967M (0.13) (0.071)
CRA-868SB (0.0000) (0.0000)
CRA-869SB (0.0000) (0.0013)
CRA-609M (0.001 U) (0.0064)
CRA-141M (0.0000) (0.0000)
CRA-140M (0.0011) (0.0024)
CRA-755M (0.0000) (0.0000)
CRA-060M (0.0000) (0.0470)
CRA-061M (0.001 U) (0.001 U)
CRA-138M
CRA-139M
CRA-063M
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CRA-880M (0.0000) (0.0000)
CRA-884M (0.0000) (0.0000)
CRA-117M
CRA-116R
CRA-513R
CRA-514R
CRA-244R
CRA-515R
CRA-123M
CRA-123R
CRA-516R
CRA-517R
CRA-518R
CRA-519R
CRA-129M
CRA-025R
CRA-520R
CRA-112R
CRA-115M
CRA-521R
CRA-522R
CRA-523R
CRA-111R
CRA-524R
CRA-026R
CRA-119R
CRA-041R
CRA-113M (0.0000) (0.0000)
CRA-239M
CRA-238M (0.0000) (0.0000)
CRA-315M (0.0000) (0.0000)
CRA-969M (0.067 U) (0.023 J)
CRA-756M (0.05) (0.002 J)
CRA-1
POWERHOUSE
PIPING TRESTLE
TANK FARM PUMP HOUSE
TRUCK WELL
TRUCK WELL
TRUCK WELL
COAL CONV.
COOLING TOWER
P.H. STORAGE
OIL STORAGE
MAINTENANCE GARAGE
CORROSION PLATE
EMERGENCY GENERATOR
FIRE PUMPS
PLANT ENGINEERING
AIRPORT DRIVE
PUMP HOUSE
SAMPLE HOUSE 3
GATE HOUSE
OVERHEAD WALKWAY
BLOW BLDG
WILLOW RUN AIRPORT PROPERTY

No	Revision	Date	Initial

0 40 80ft

LEGEND

- PROPERTY BOUNDARY(ESTIMATED ADAMS AND SON JULY 31, 2014)
- CRA-726M — EXISTING WELL SHALLOW
- MW-211 — 2016/2017 SAMPLED LOCATIONS - SHALLOW
- CRA-238M — SAMPLED EXISTING SHALLOW WELL
- (0.0770) — PCE CONCENTRATION (mg/L)
- (0.4800) — TCE CONCENTRATION (mg/L)
- GHD-1175TW — EXISTING TEMPORARY WELL
- MW-8 — AIRPORT SAMPLING LOCATIONS
- LOCATIONS SAMPLED IN 2013/2014
- LOCATIONS WITH POTENTIAL NON-AQUEOUS PHASE LIQUID
- ACM SWALES (ESTIMATED LOCATION BY GHD 1-26-18)
- FRENCH DRAIN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

GROUNDWATER ANALYTICAL RESULTS

PCE INVESTIGATION SUMMARY

FORMER POWERTRAIN PLANT YPSILANTI, MICHIGAN

GHD

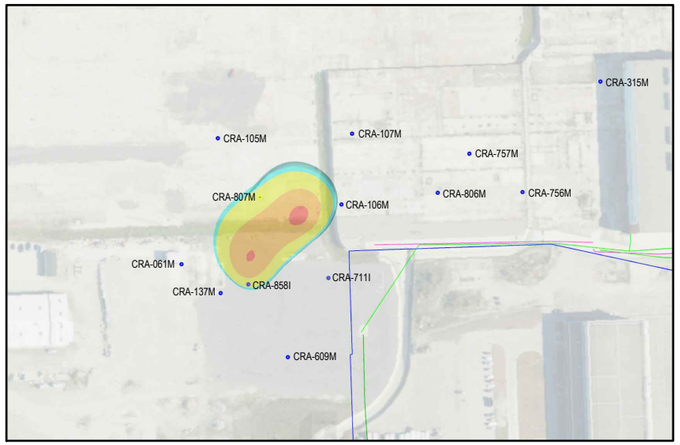
Source Reference:

Project Manager:	Reviewed By:	Date:	
B.L.	A.B.	JANUARY 2018	
Scale: AS SHOWN	Project No: 017358-T01	Report No: MEMO204	Drawing No: A.12

017358-T01(MEMO204)GN-DE018 JAN 31, 2018

Appendix C

3-Dimensional Model Figures



2016

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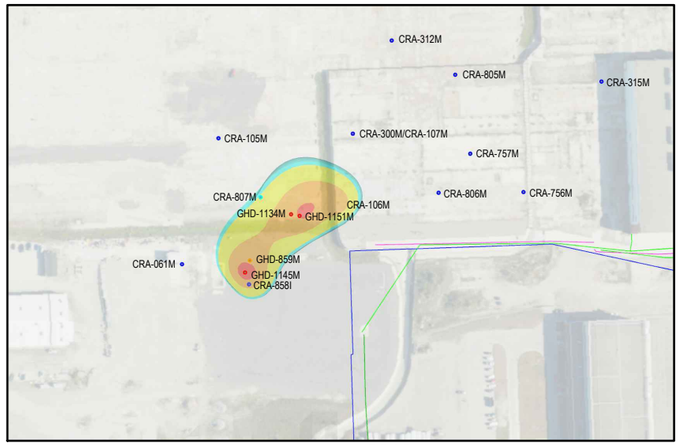
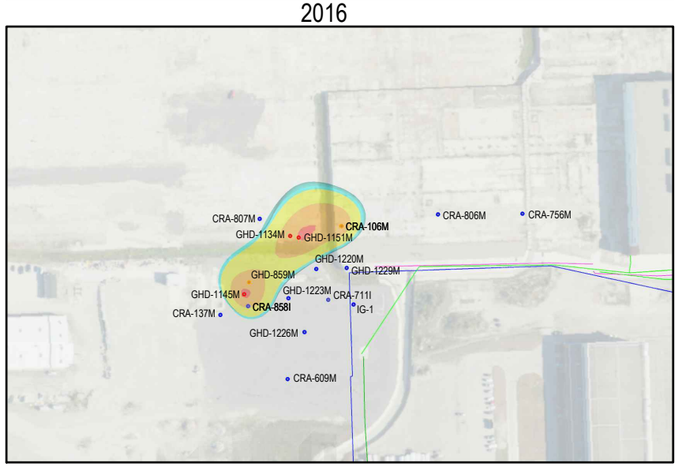


2018



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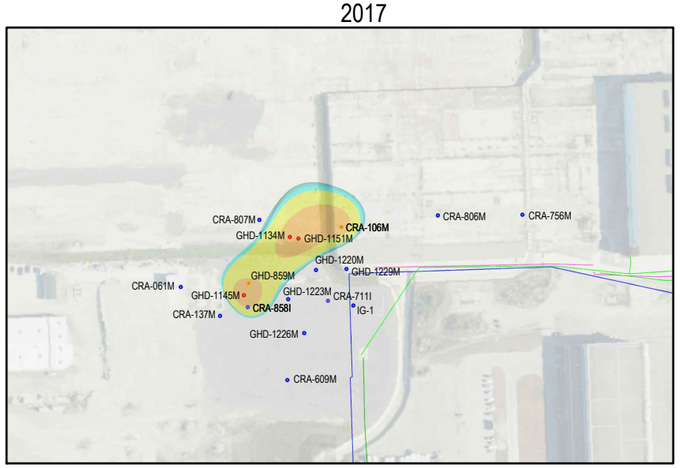

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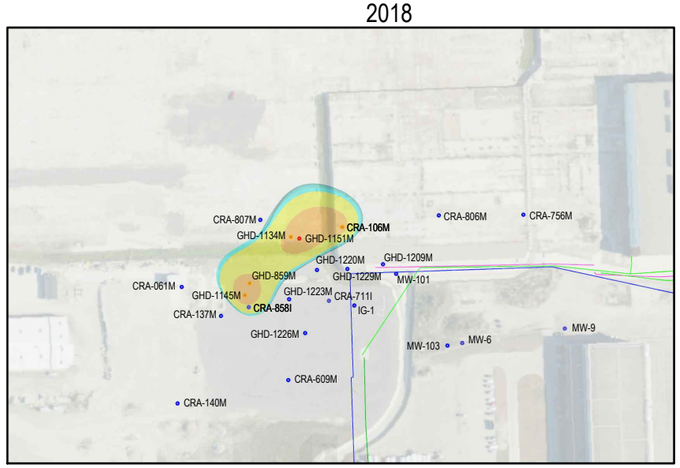
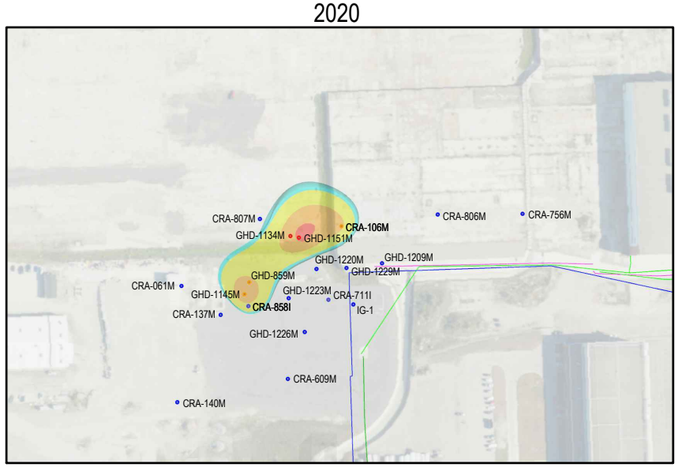
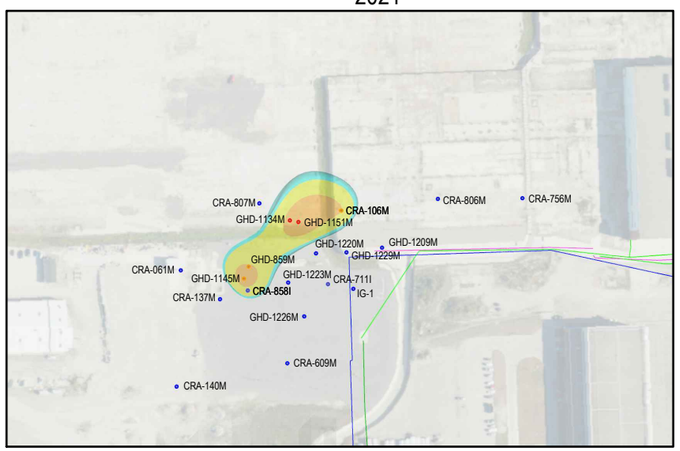


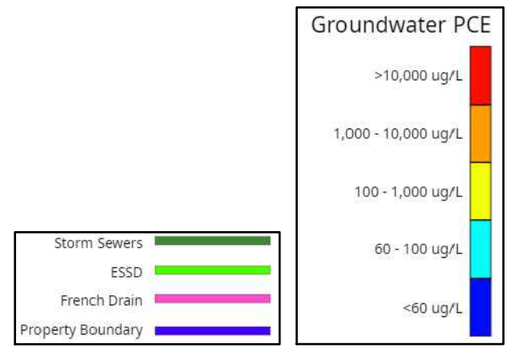
2022



2023



2024



RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PCE PLUME OVER TIME

Project No. **12602792**
Date **September 2024**

FIGURE C.1

Data Source

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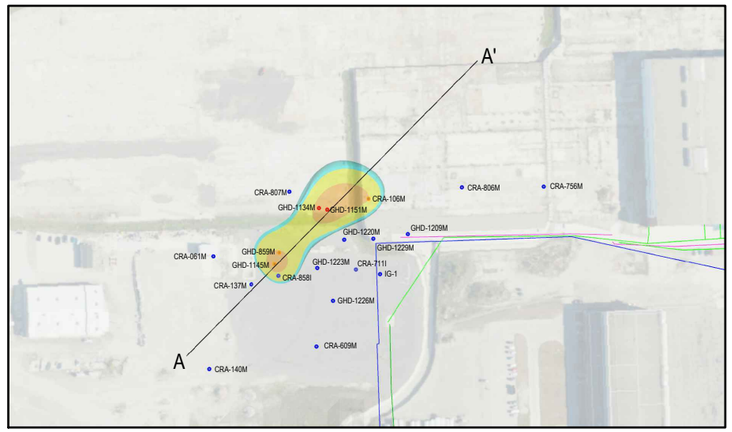

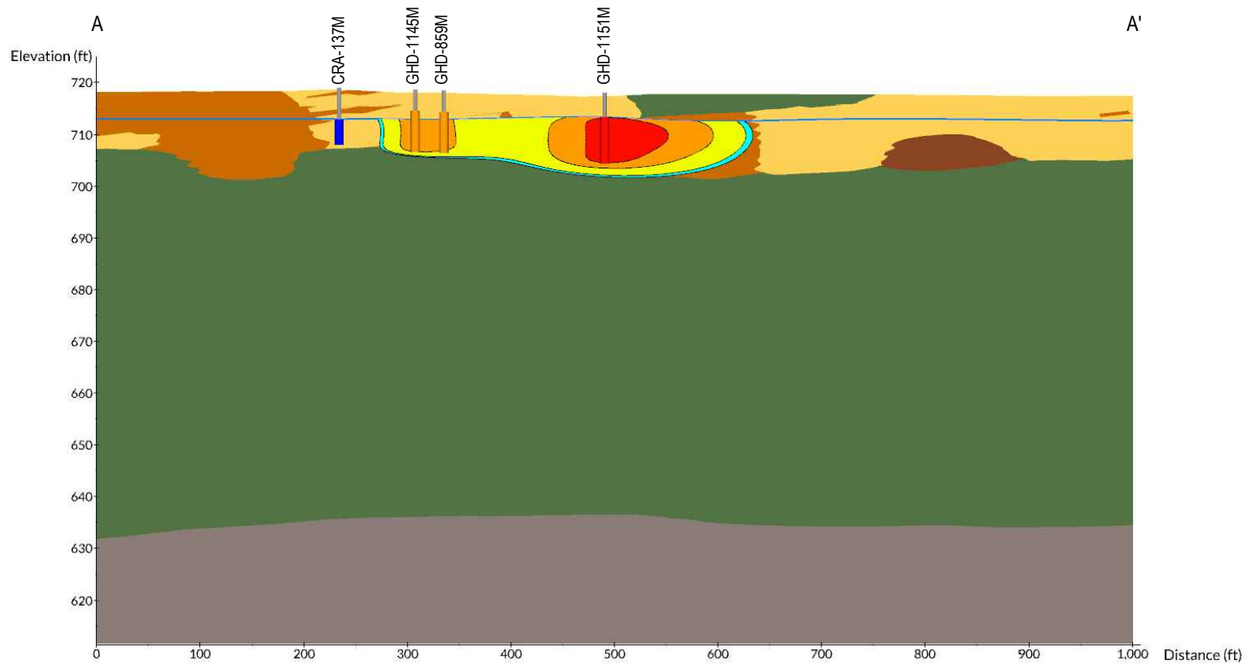

Storm Sewers
ESSD
French Drain
Property Boundary

Groundwater PCE
>10,000 ug/L
1,000 - 10,000 ug/L
100 - 1,000 ug/L
60 - 100 ug/L
<60 ug/L

CleanSand
SiltySands
Clay_ClayeySand
Silt
DeepZone
ClayTill

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PCE PLUME AERIAL PLAN AND CROSS SECTION

Project No. **12602792**
Date **September 2024**

FIGURE C.2

Data Source

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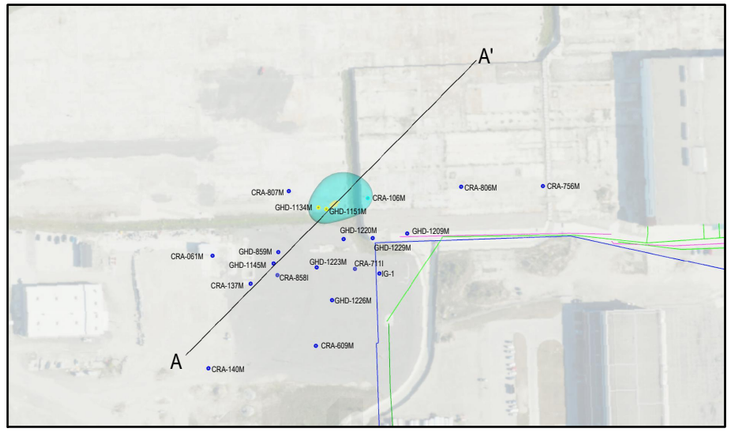

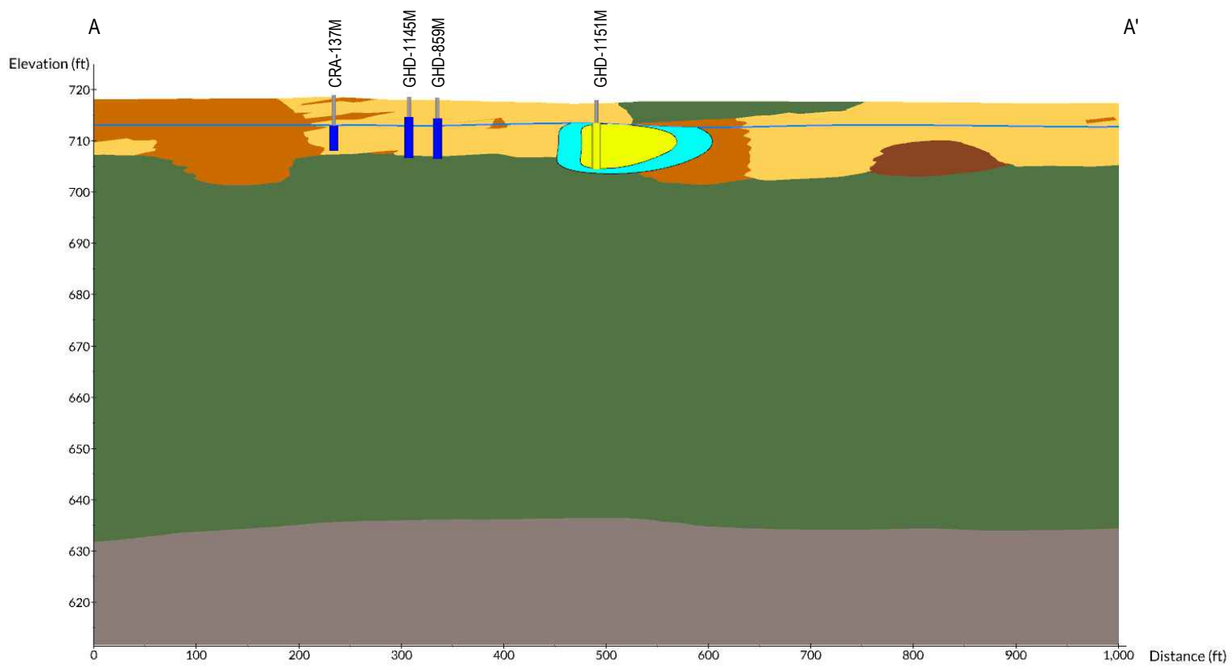

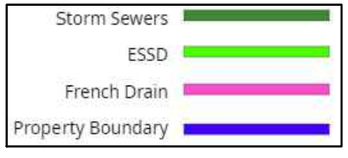

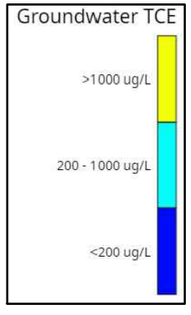

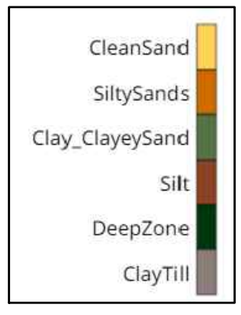

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

TCE PLUME AERIAL PLAN AND CROSS SECTION

Project No. **12602792**
Date **September 2024**

FIGURE C.3

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D111_DE006.dwg
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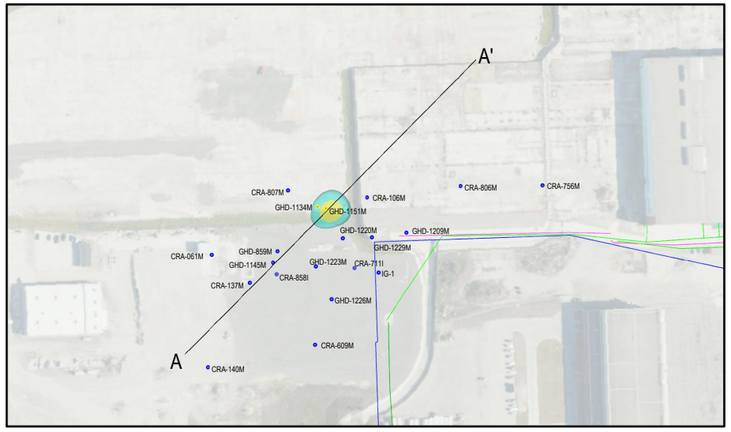

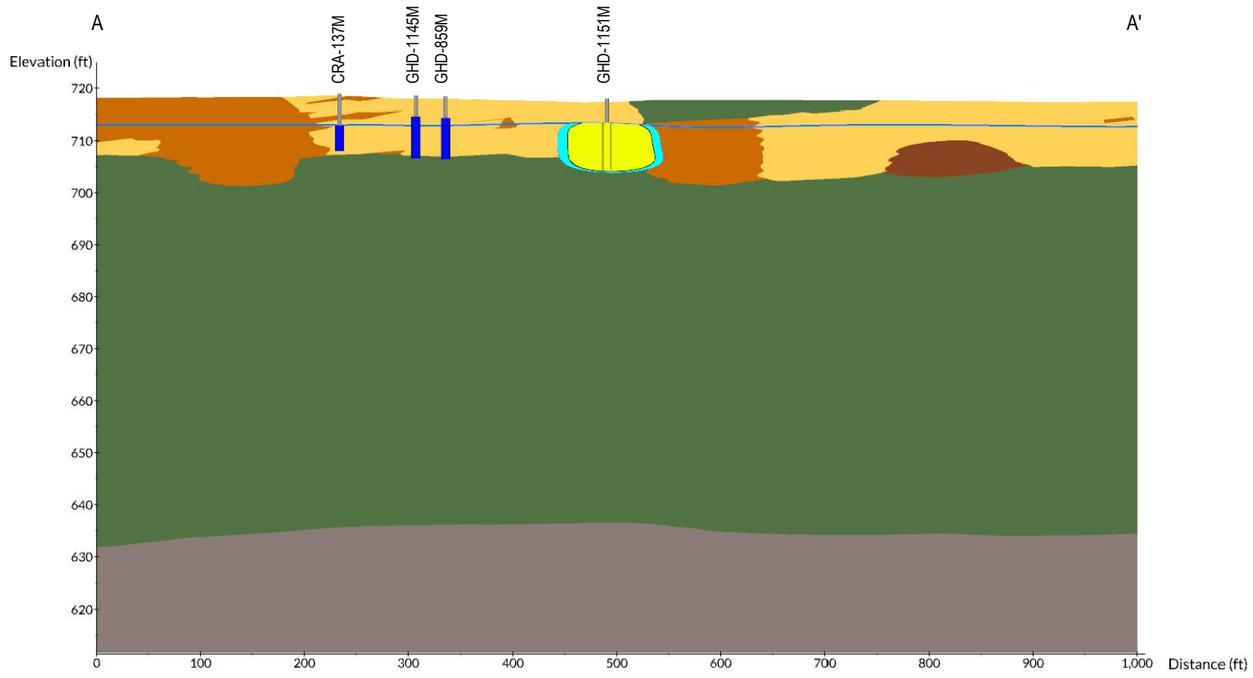

Storm Sewers
ESSD
French Drain
Property Boundary

Groundwater CIS 1,2-DCE
>1000 ug/L
620 - 1000 ug/L
<620 ug/L

CleanSand
SiltySands
Clay_ClayeySand
Silt
DeepZone
ClayTill

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

cDCE PLUME AERIAL PLAN AND CROSS SECTION

Project No. **12602792**
Date **September 2024**

FIGURE C.4

Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D112_DE006.dwg
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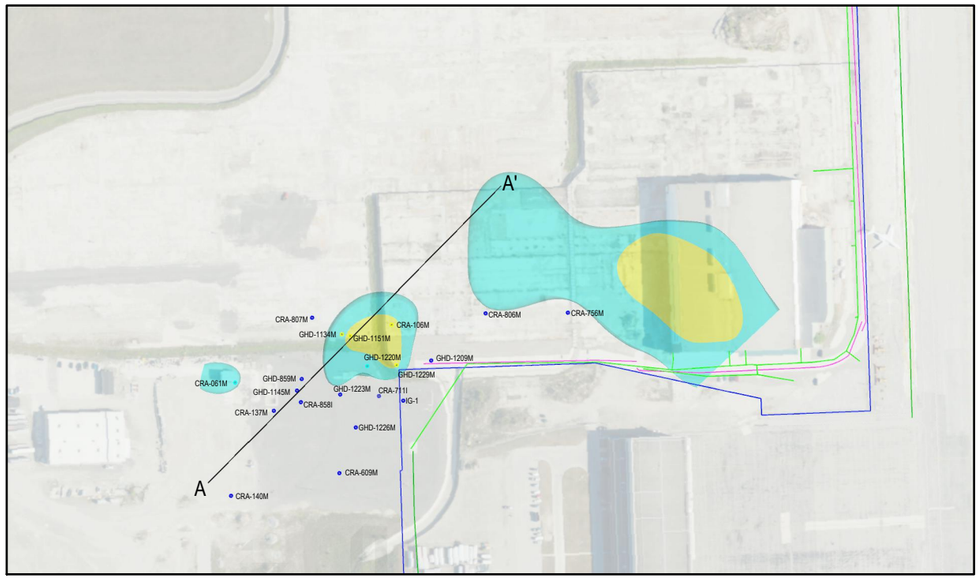
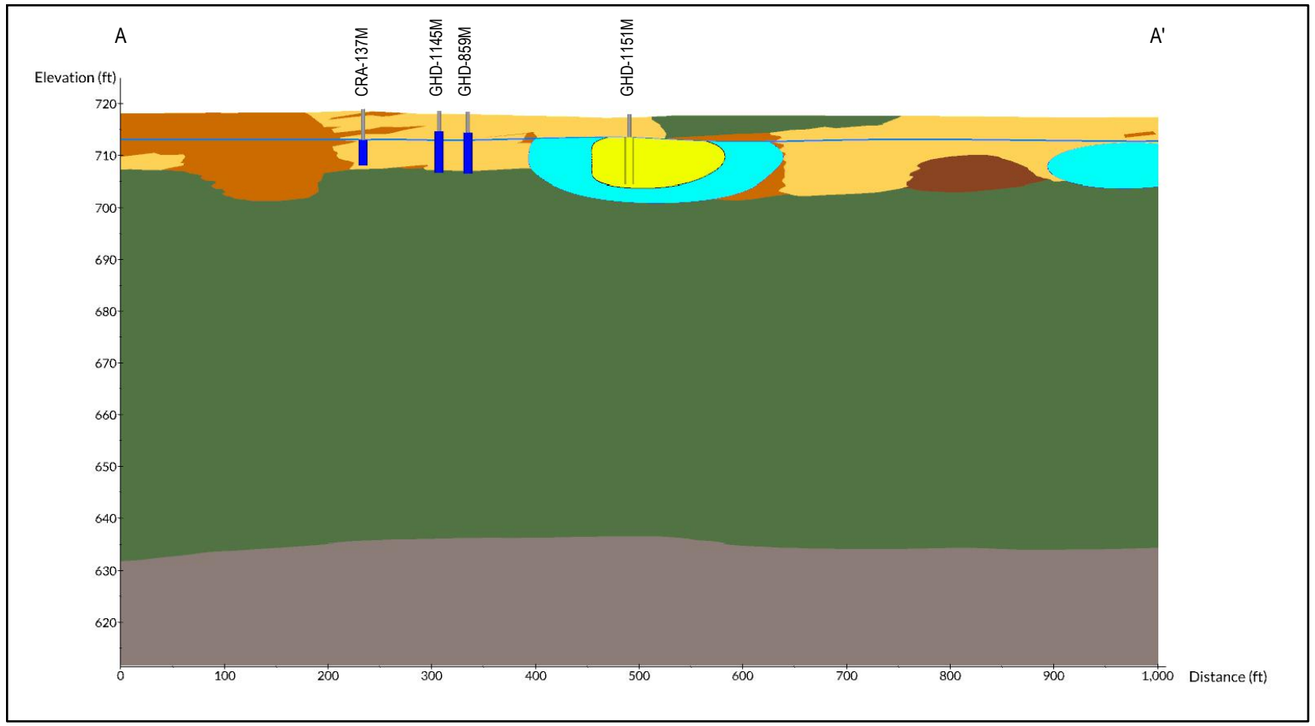




Storm Sewers
ESSD
French Drain
Property Boundary

Groundwater VC
>100 ug/L
13 - 100 ug/L
<13 ug/L

CleanSand
SiltySands
Clay_ClayeySand
Silt
DeepZone
ClayTill

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

VC PLUME AERIAL PLAN AND CROSS SECTION

Project No. **12602792**
Date **September 2024**

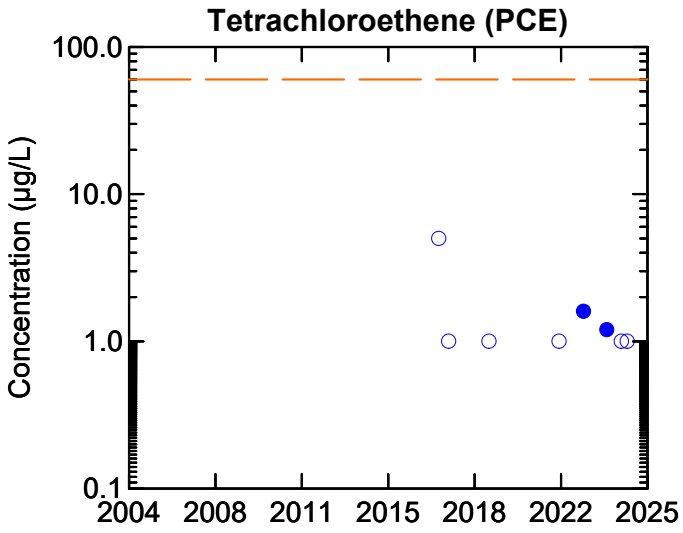
FIGURE C.5

Data Source

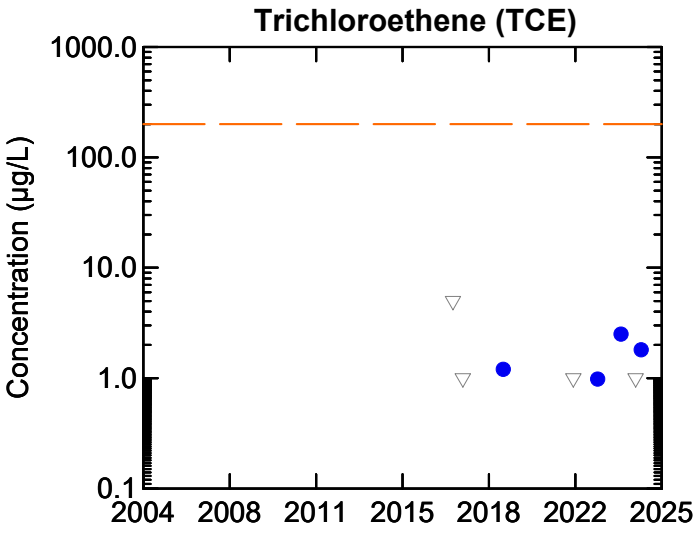
Filename: N:\US\Detroit\Projects\563\12602792\Digital_Design\ACAD\Figures\RPT006\12602792-GHD-00-00-RPT-EN-D113_DE006.dwg
Plot Date: 03 September 2024 10:55 AM

Appendix D

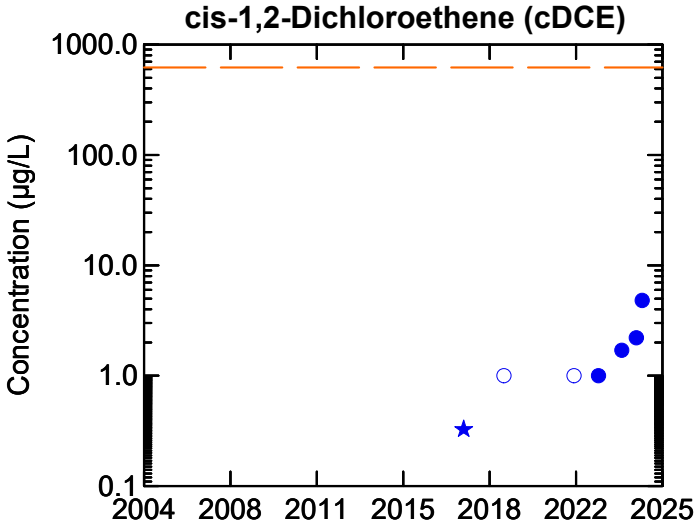
Mann Kendall Trend Plots



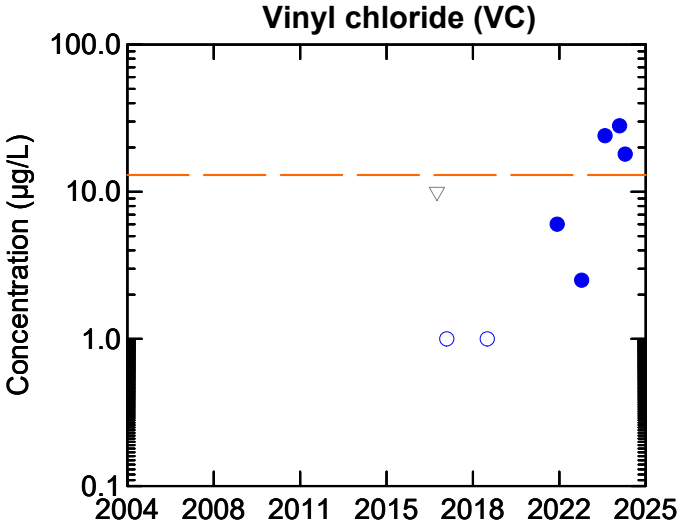
Not tested (fewer than 4 detects)



No trend



Increasing



Increasing

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.
- Low detected value (below detection limit) treated as a non-detect in trend test.

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

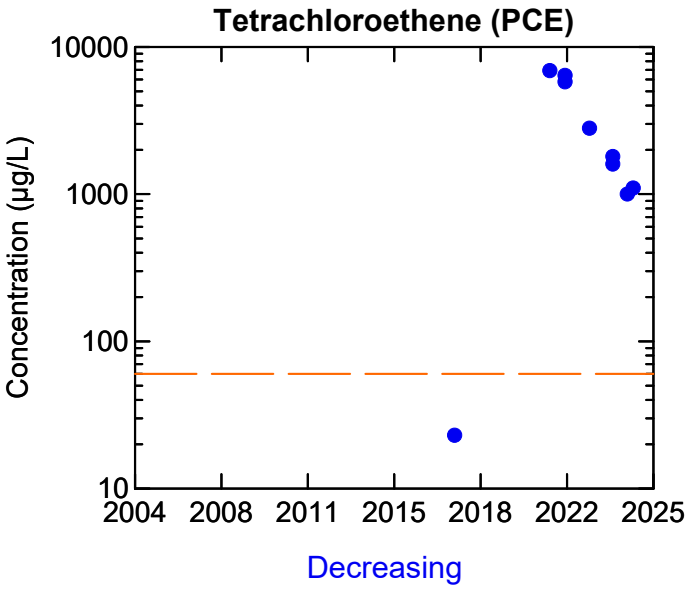
GHD

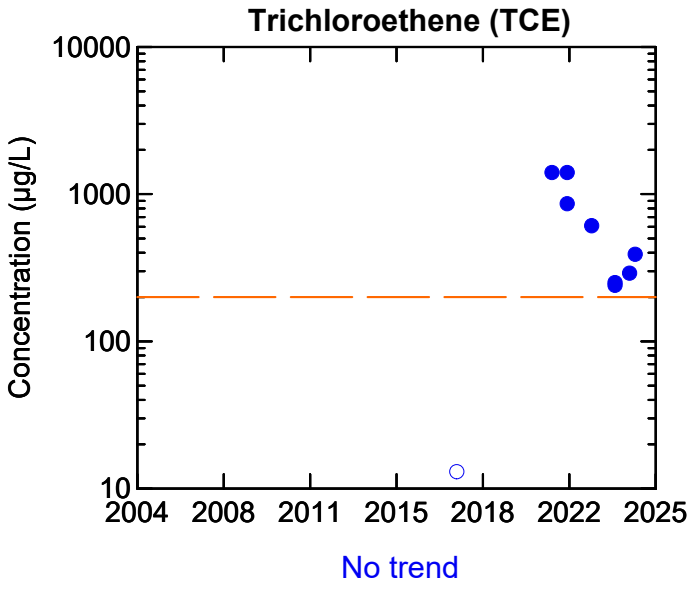
Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

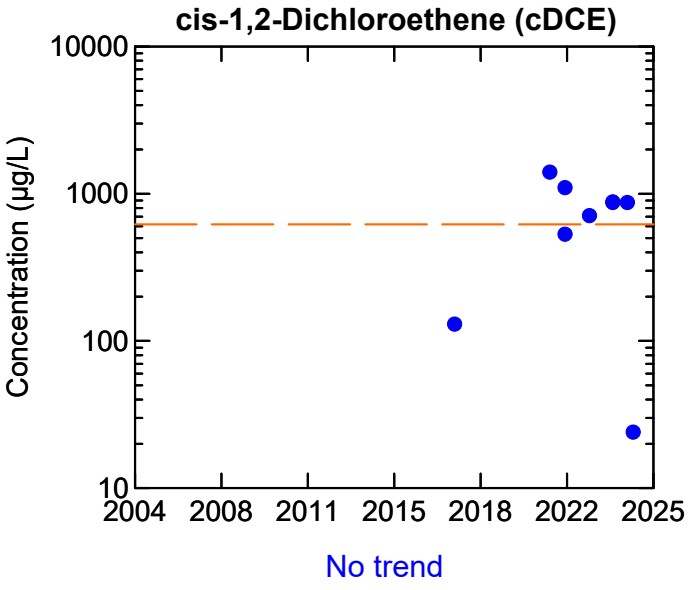
CONCENTRATION vs. TIME IN GROUNDWATER

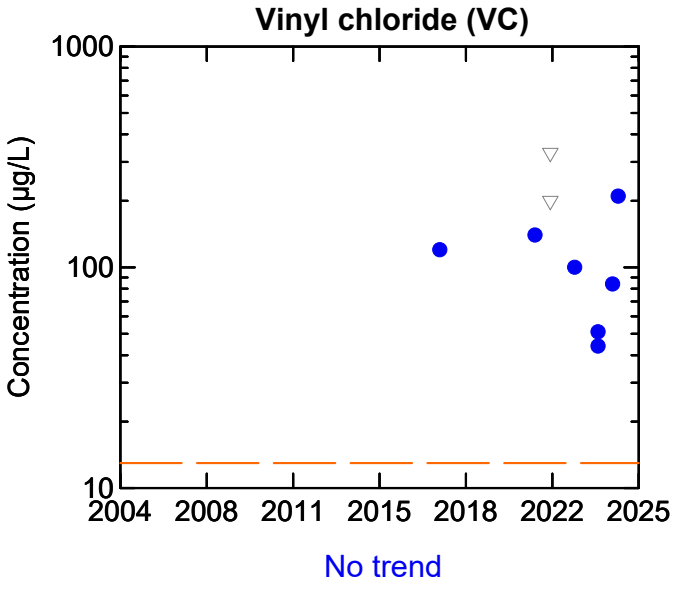
Project No. **12602792**
Date: **Aug 2, 2024**

CRA-061M









Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

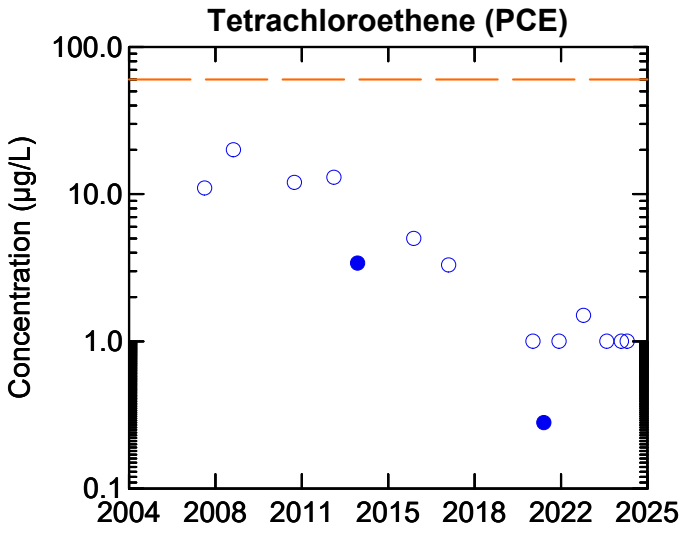
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

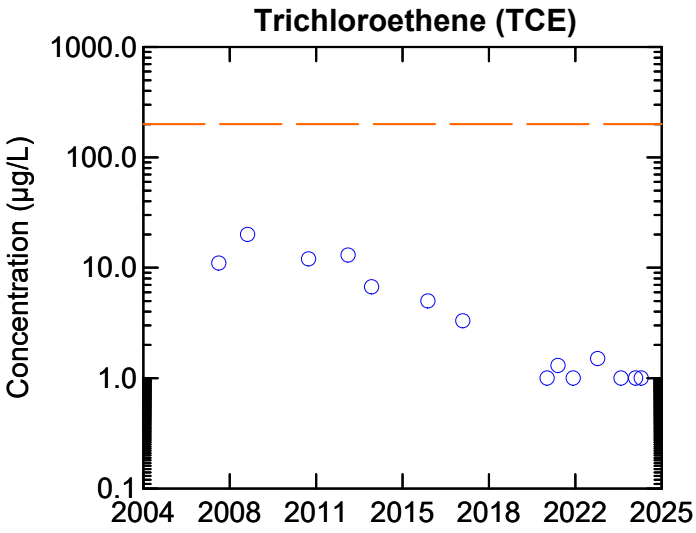
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

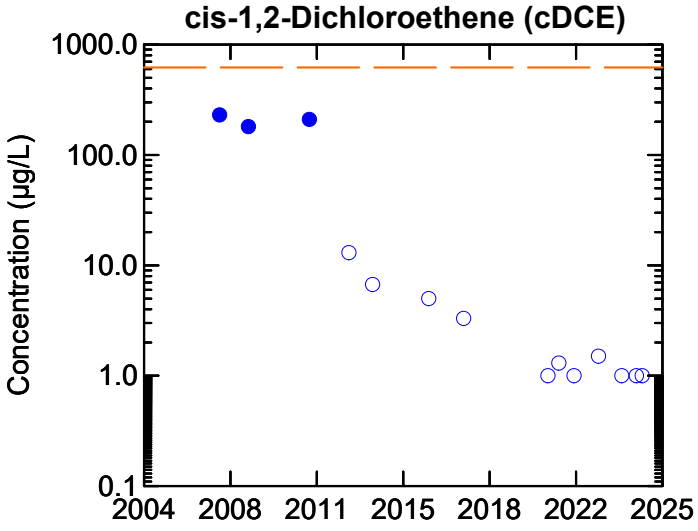
CRA-106M



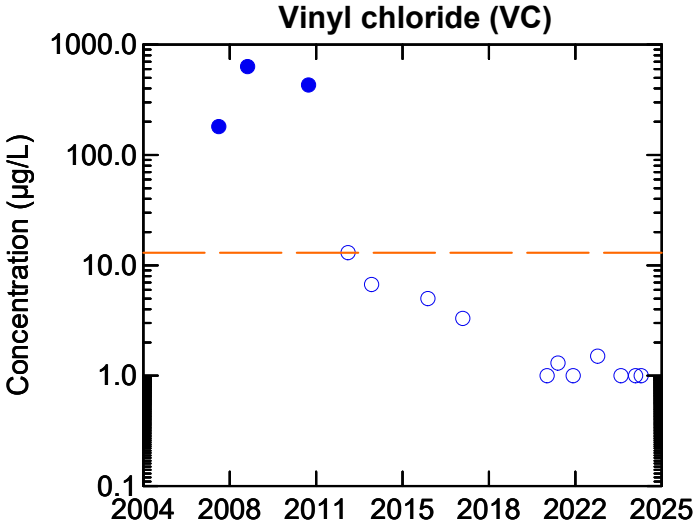
Not tested (fewer than 4 detects)



No detected results



Not tested (fewer than 4 detects)



Not tested (fewer than 4 detects)

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

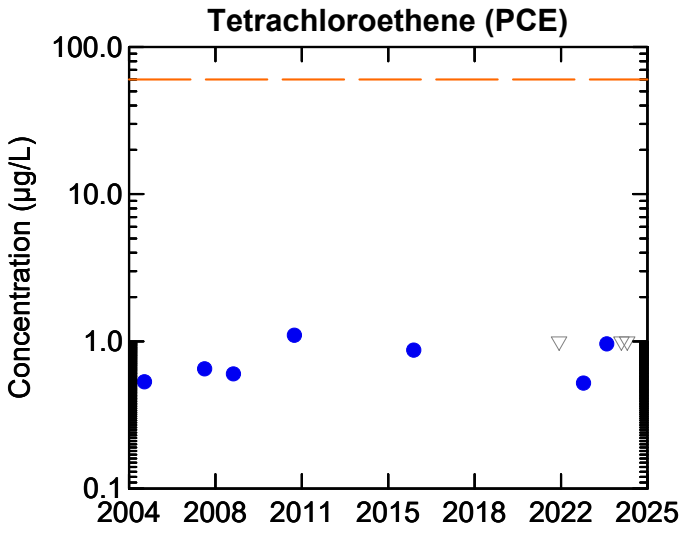
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

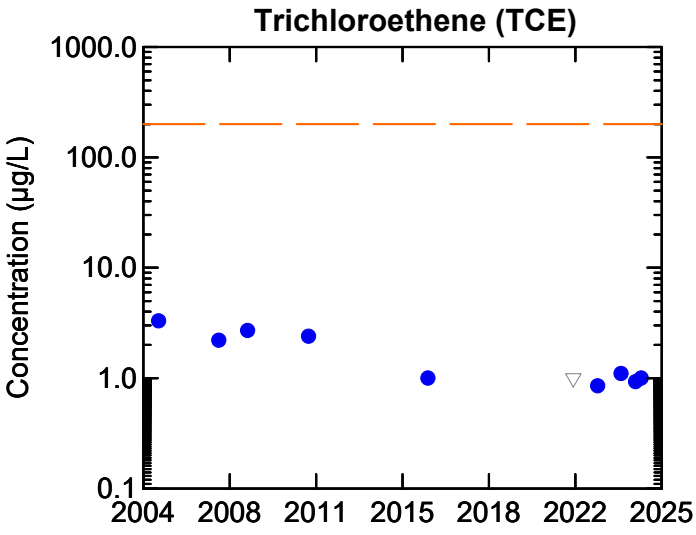
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

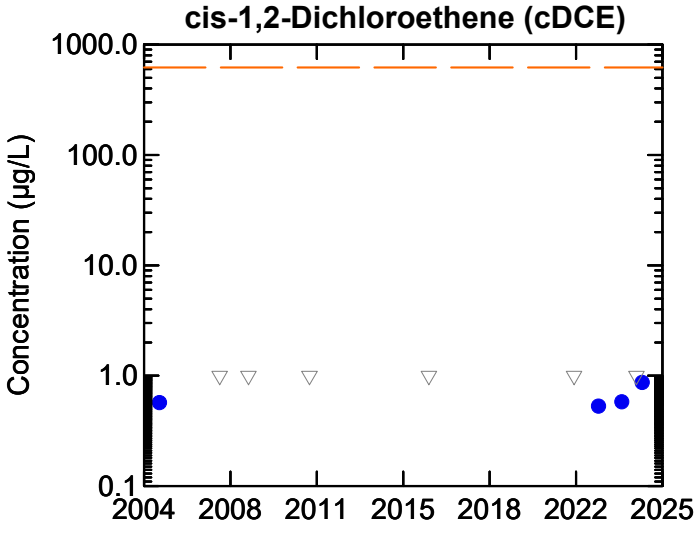
CRA-137M



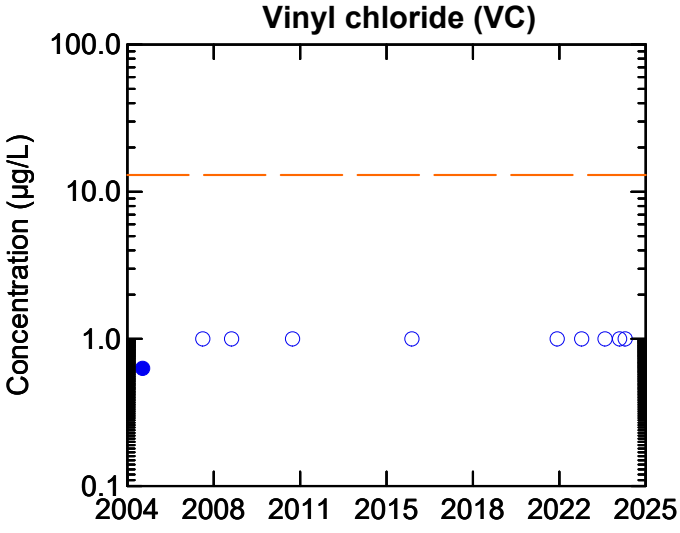
No trend



Decreasing



No trend



Not tested (fewer than 4 detects)

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

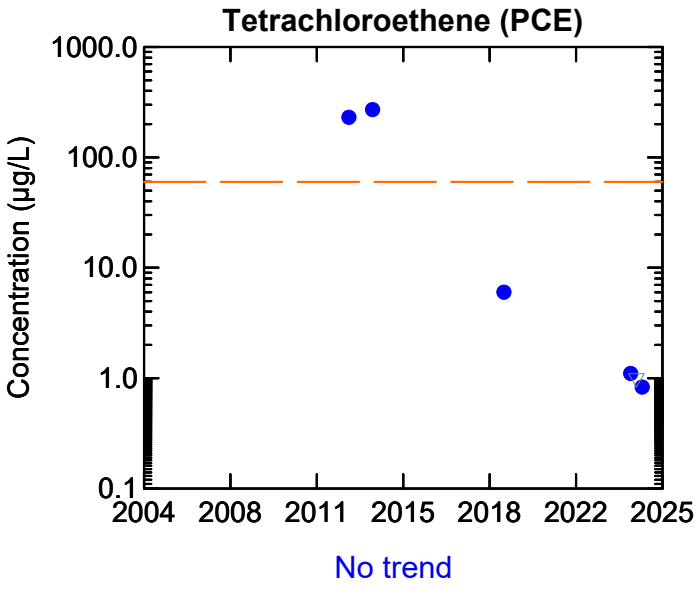
GHD

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

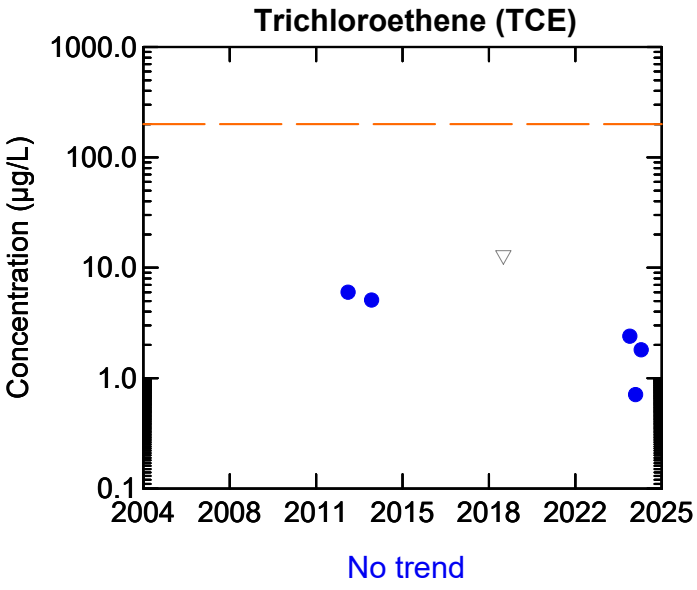
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

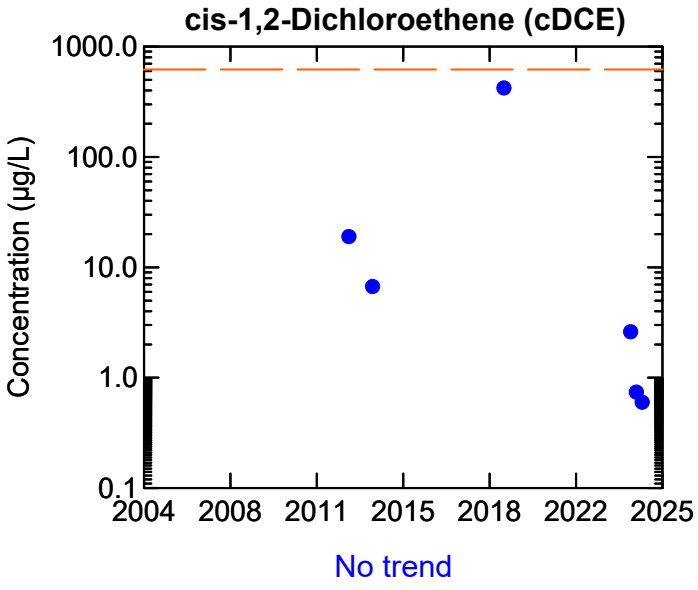
CRA-140M



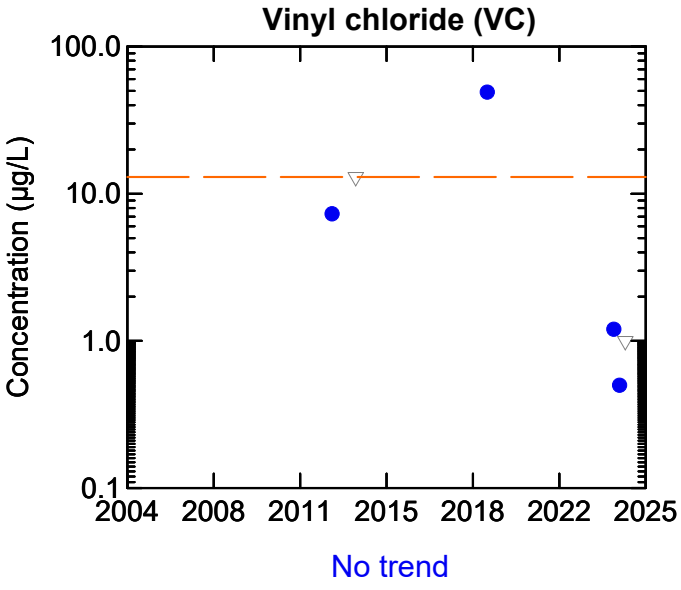
No trend



No trend



No trend



No trend

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

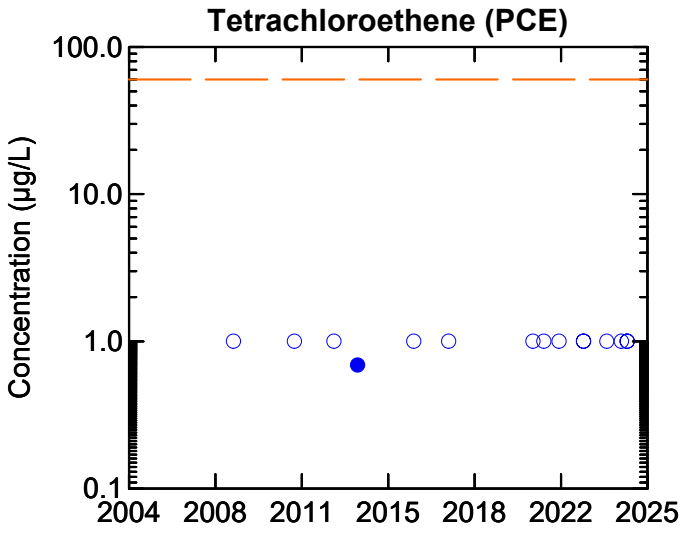
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

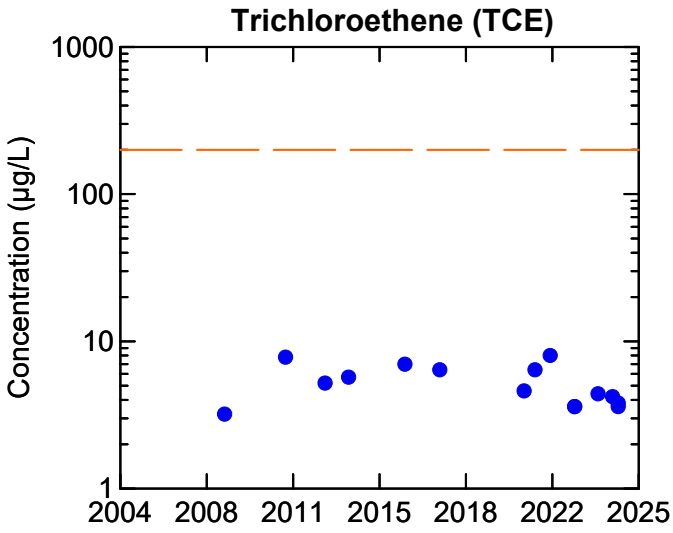
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

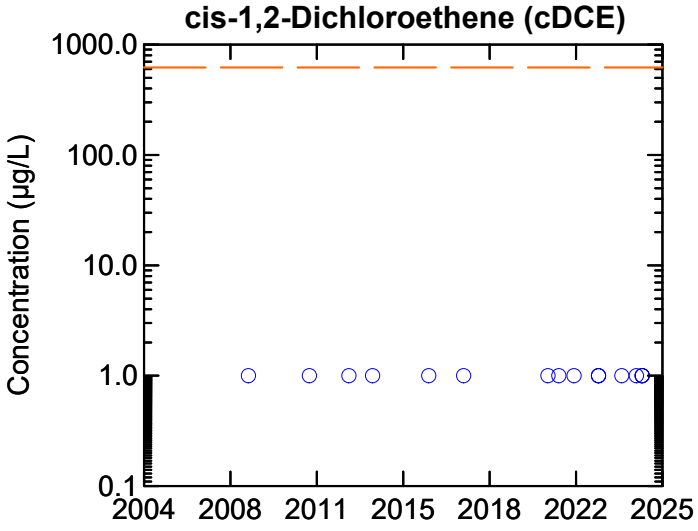
CRA-267M



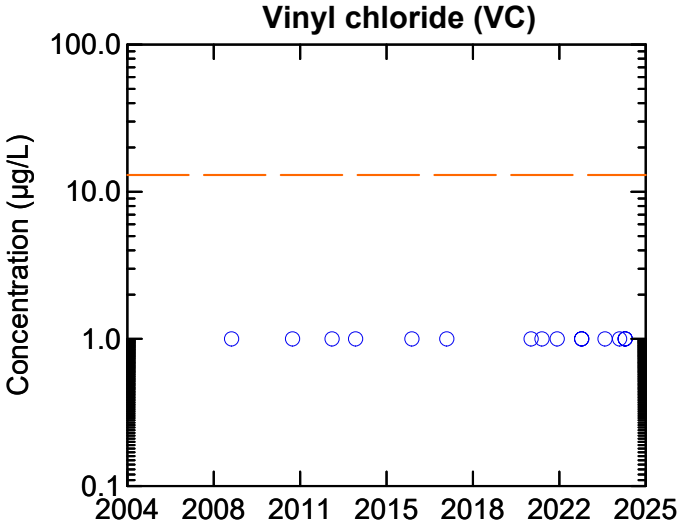
Not tested (fewer than 4 detects)



No trend



No detected results



No detected results

Legend:

— Groundwater/Surface water Interface (GSI) criterion
● Detected Result
○ Non-detect (plotted at detection limit)

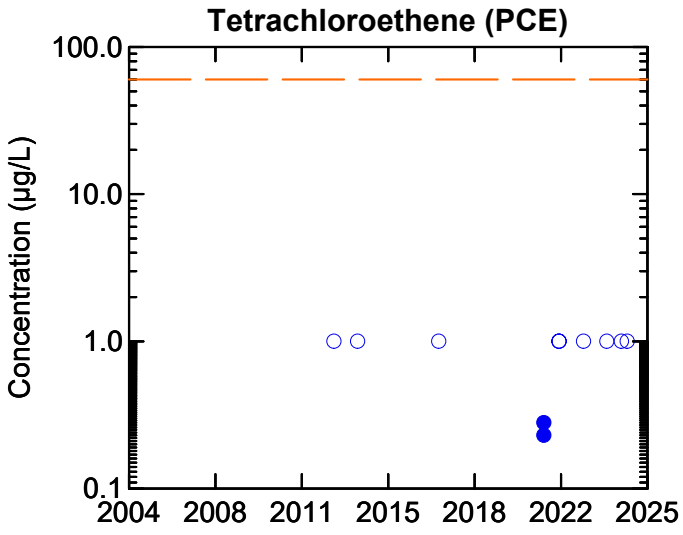
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

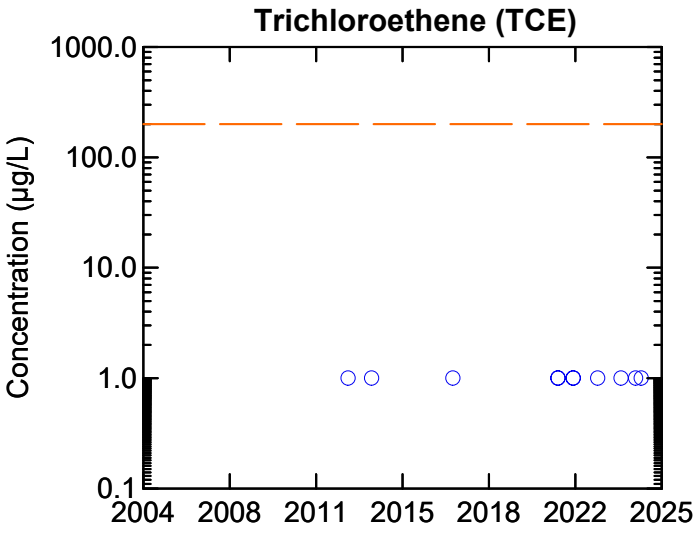
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

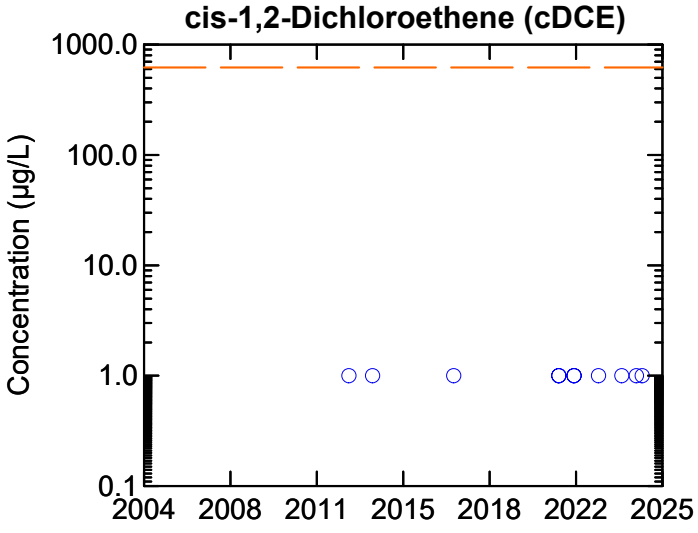
CRA-609M



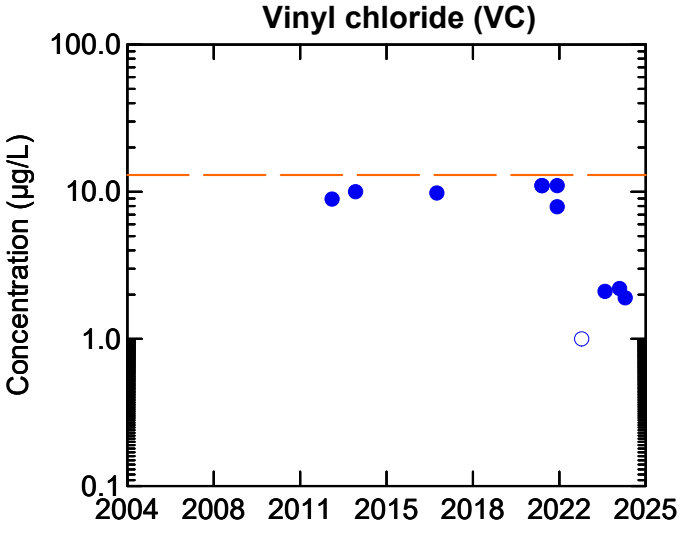
Not tested (fewer than 4 detects)



No detected results



No detected results



Decreasing

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

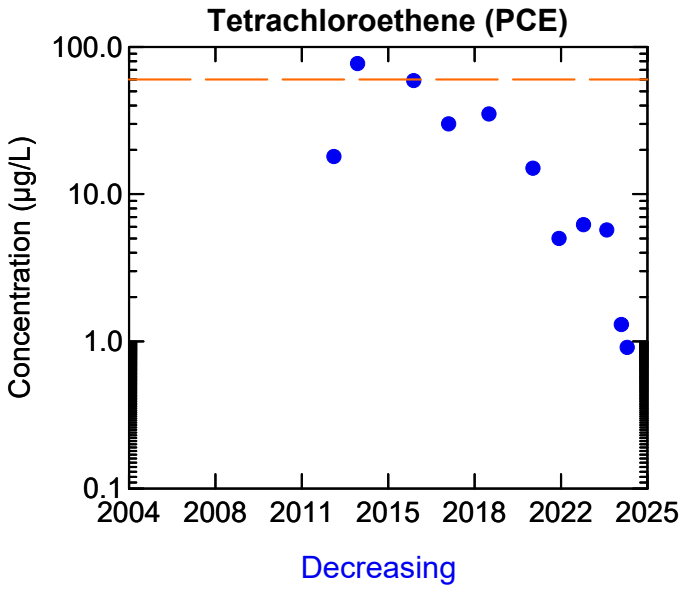
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

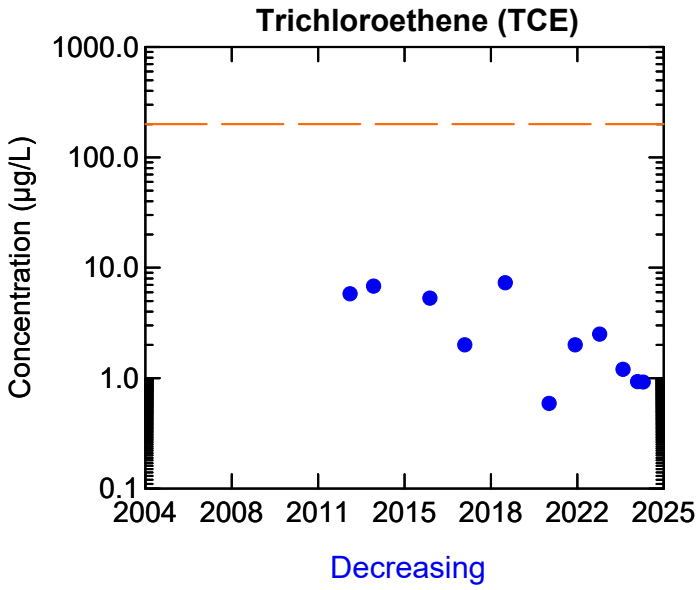
Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

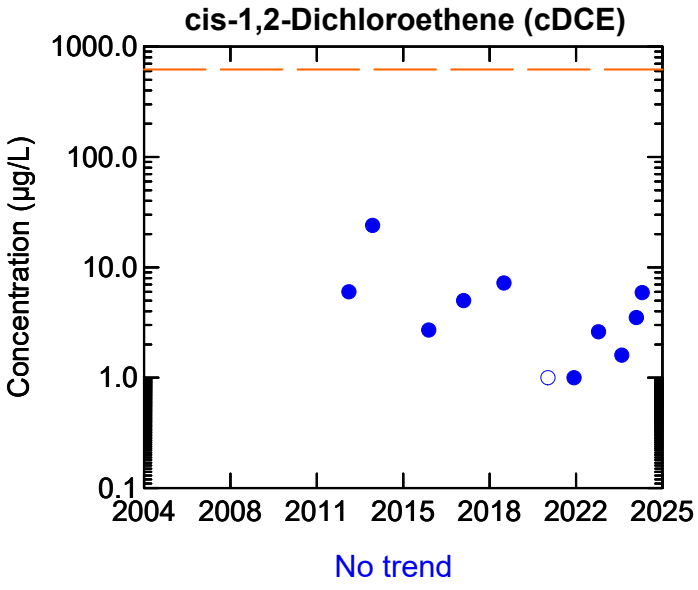
Project No. **12602792**
Date: **Aug 2, 2024**

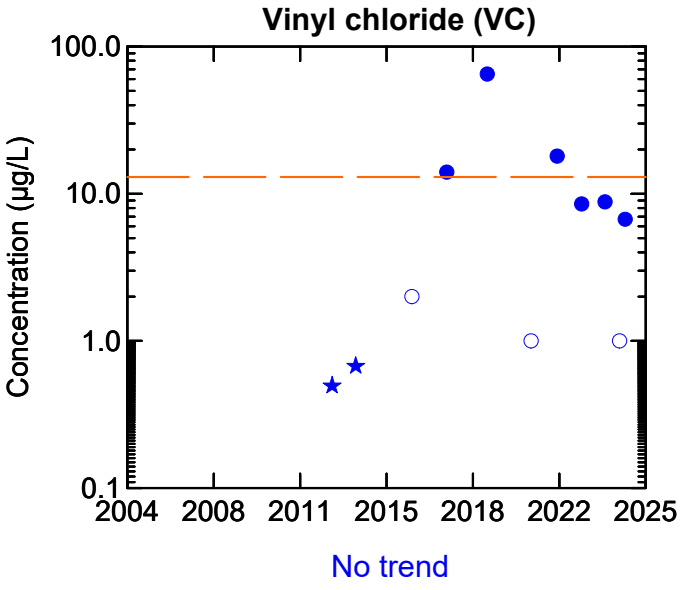
CONCENTRATION vs. TIME IN GROUNDWATER

CRA-711I









Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Low detected value (below detection limit) treated as a non-detect in trend test.

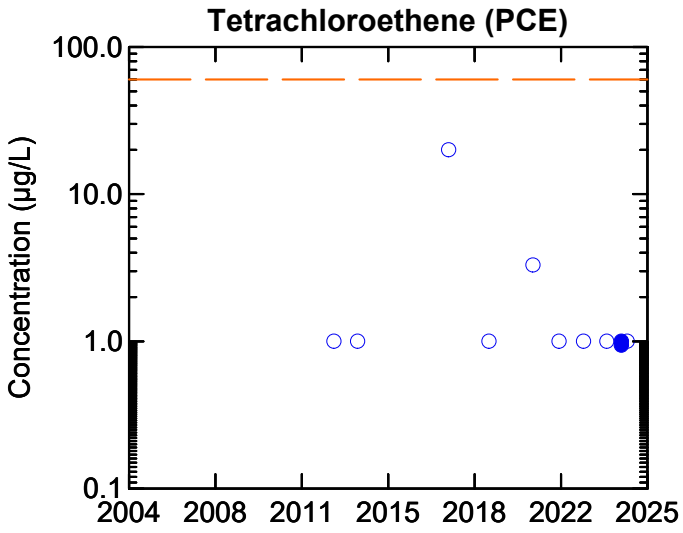
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

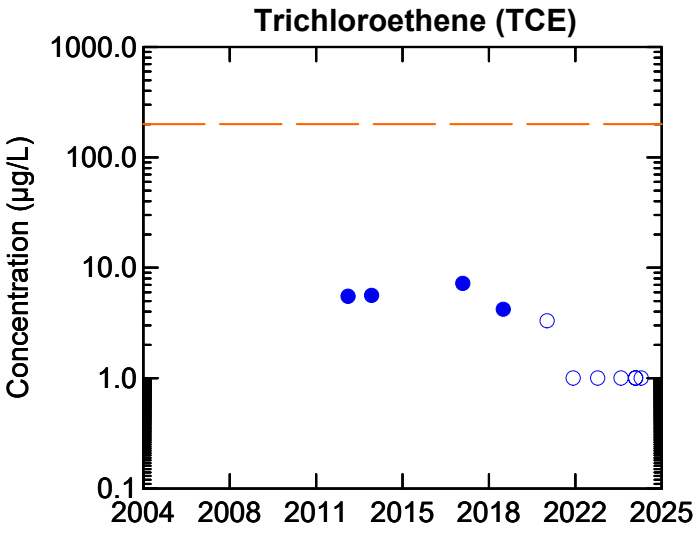
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

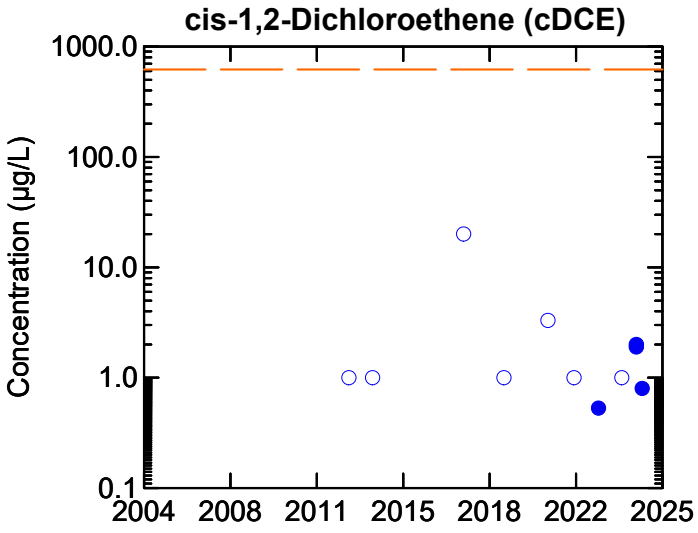
CRA-756M



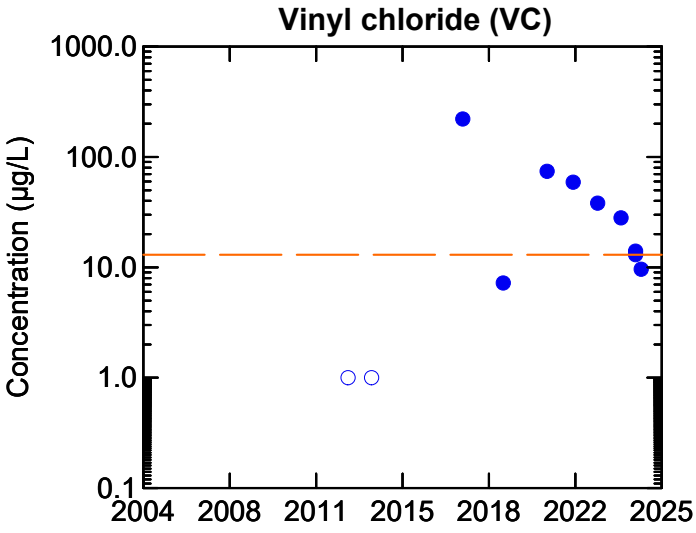
Not tested (fewer than 4 detects)



Decreasing



Not tested (fewer than 4 detects)



No trend

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

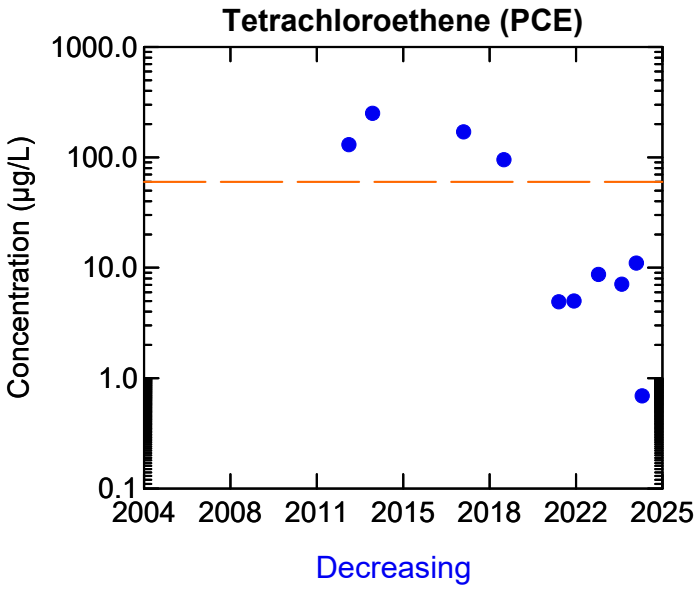
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

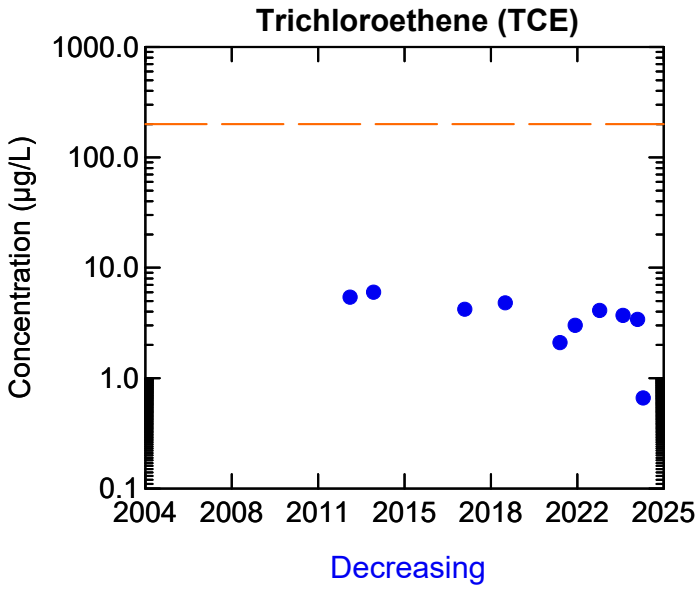
Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

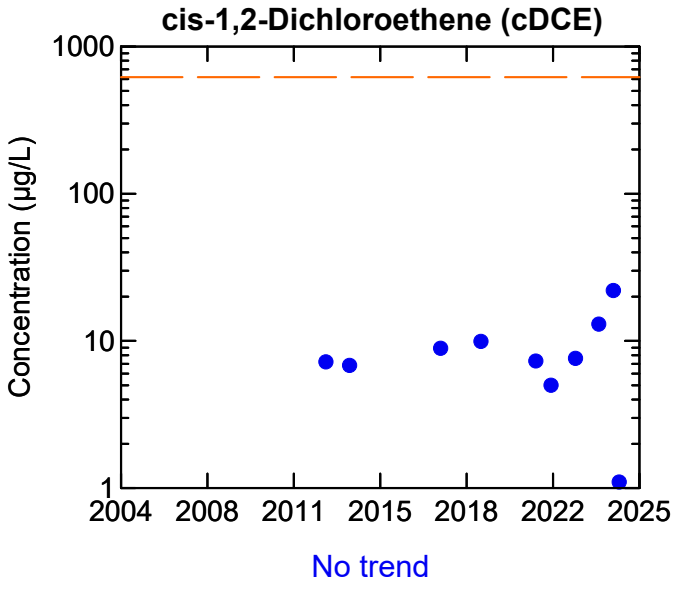
Project No. **12602792**
Date: **Aug 2, 2024**

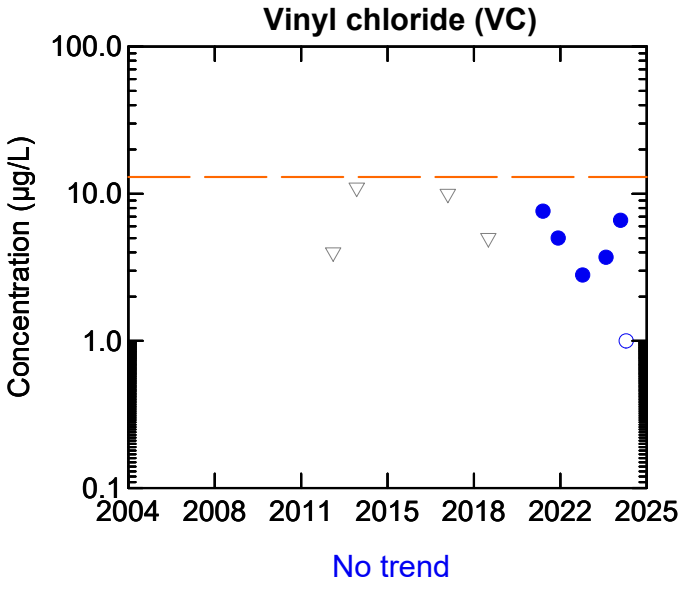
CONCENTRATION vs. TIME IN GROUNDWATER

CRA-806M









Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

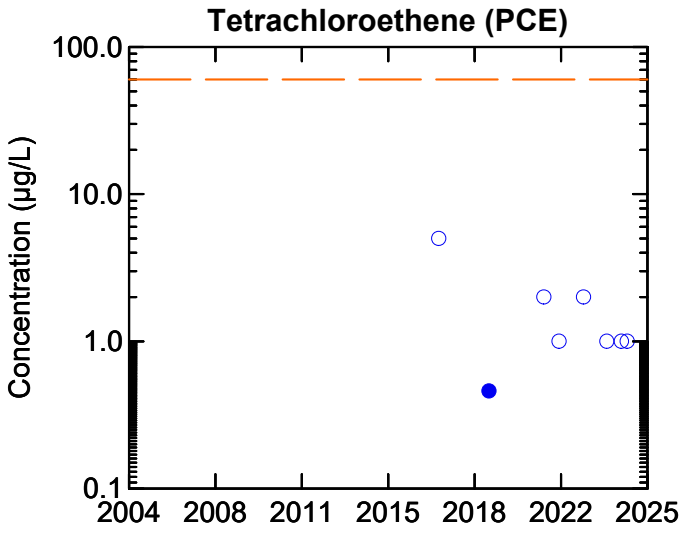
GHD

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

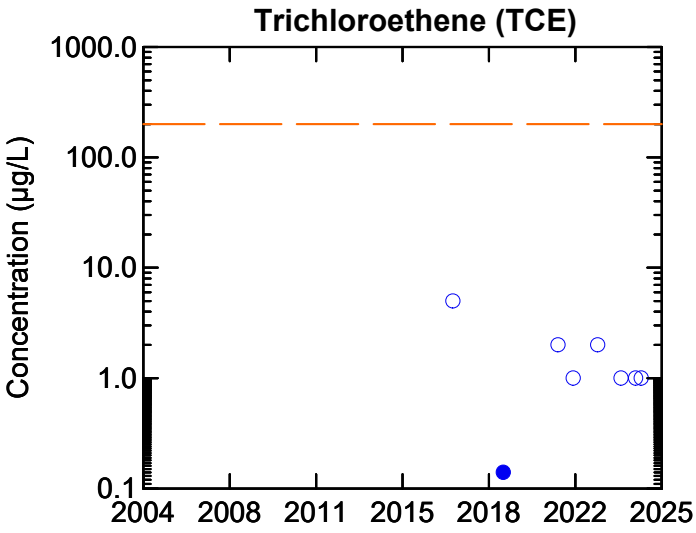
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

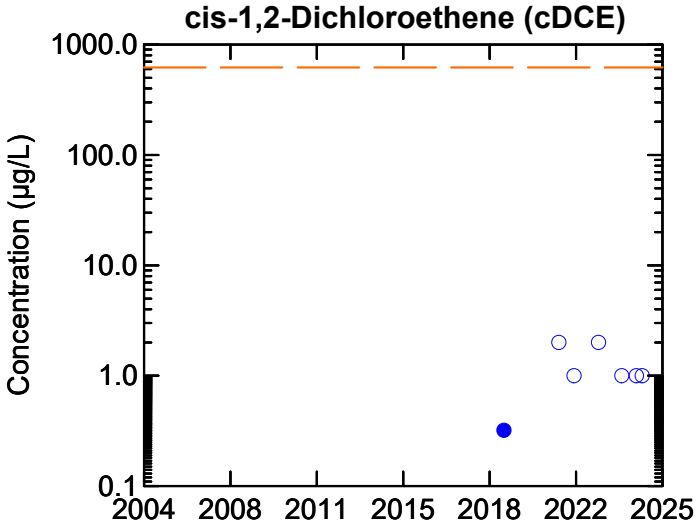
CRA-807M



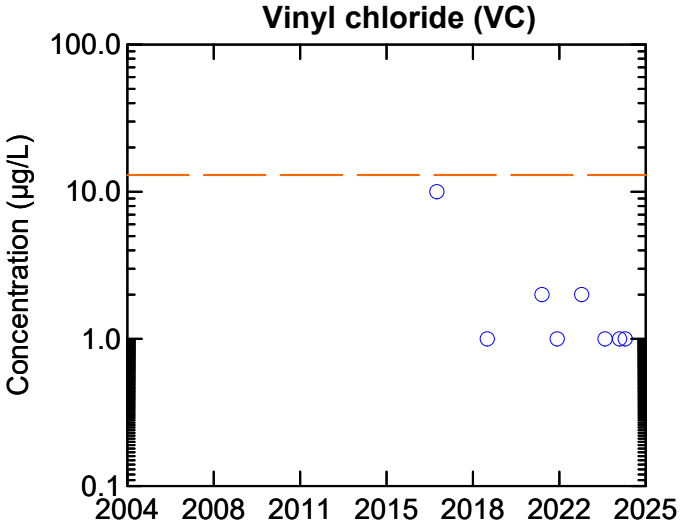
Not tested (fewer than 4 detects)



Not tested (fewer than 4 detects)



Not tested (fewer than 4 detects)



No detected results

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

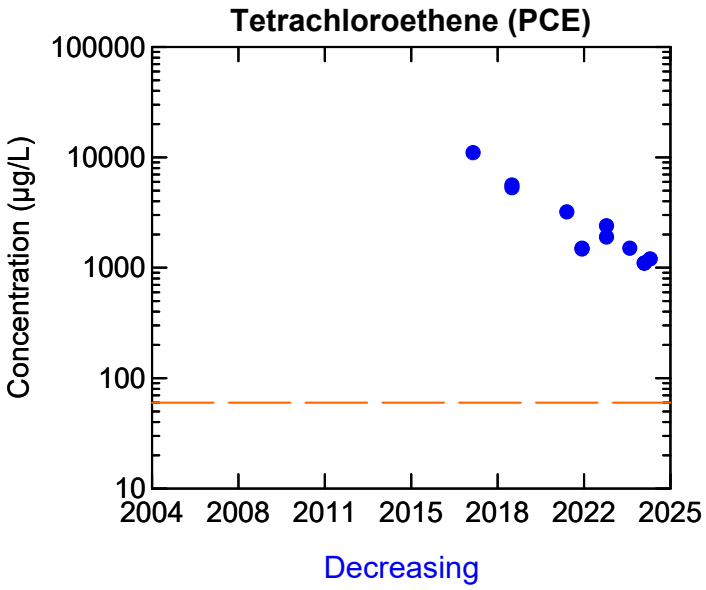
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

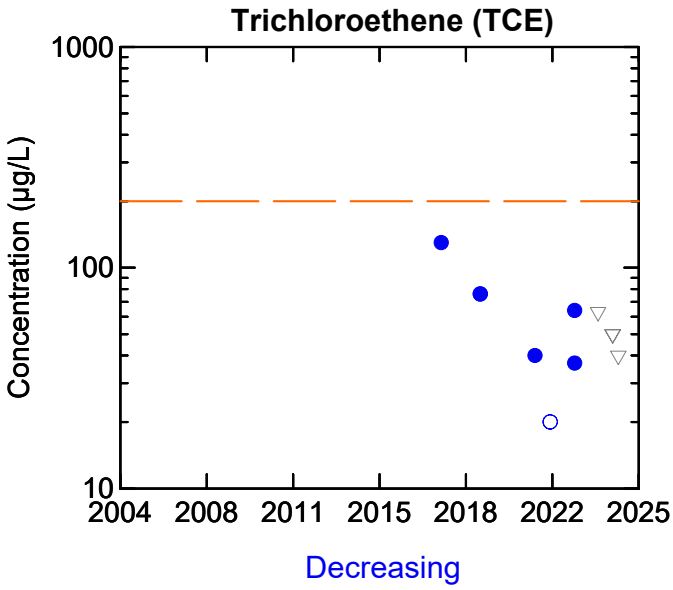
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

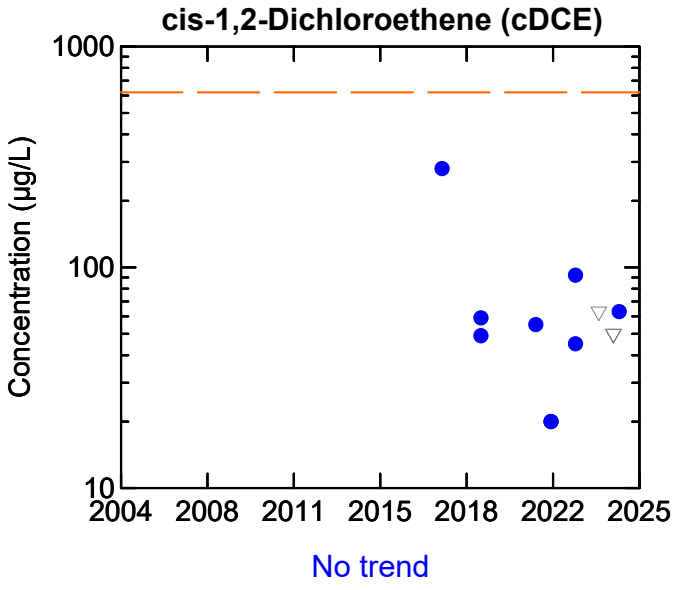
CRA-858I



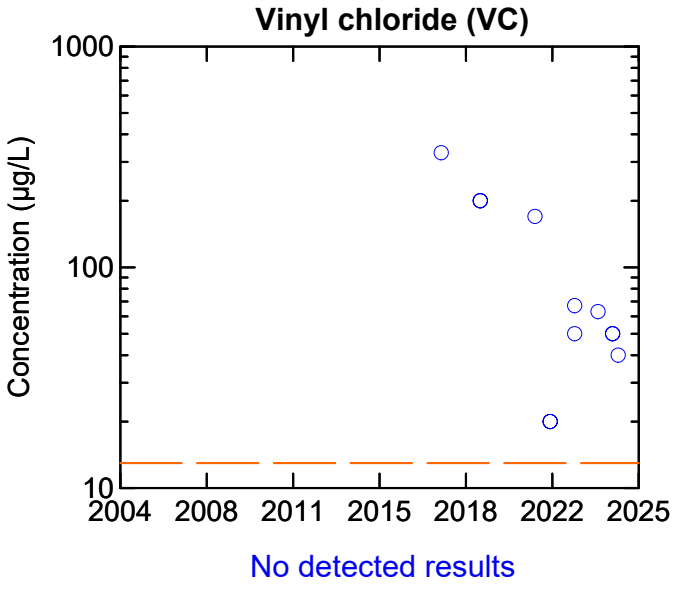
Decreasing



Decreasing



No trend



No detected results

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

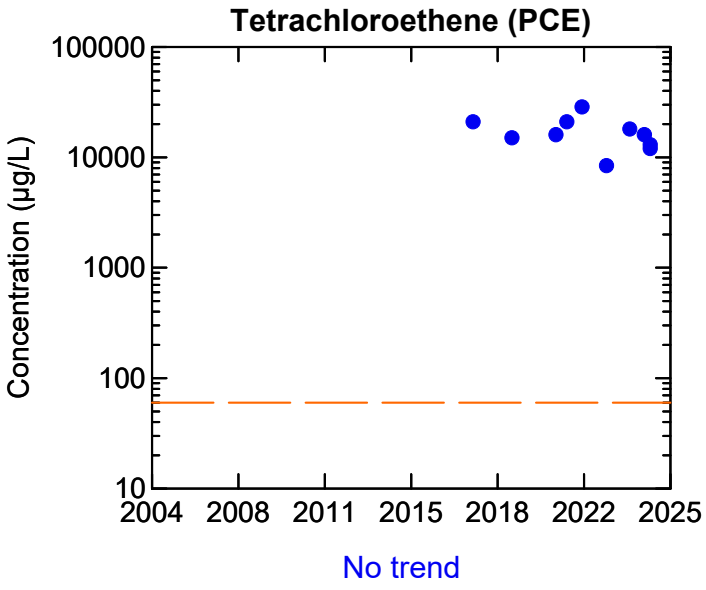
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

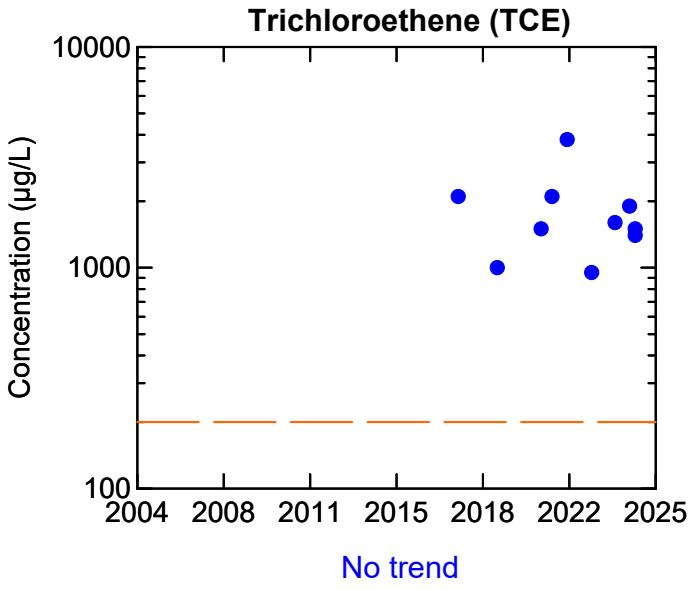
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

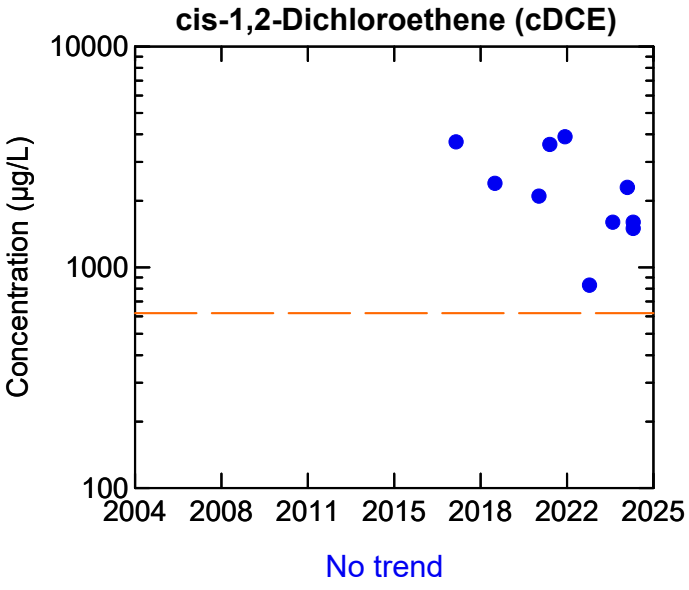
GHD-859M



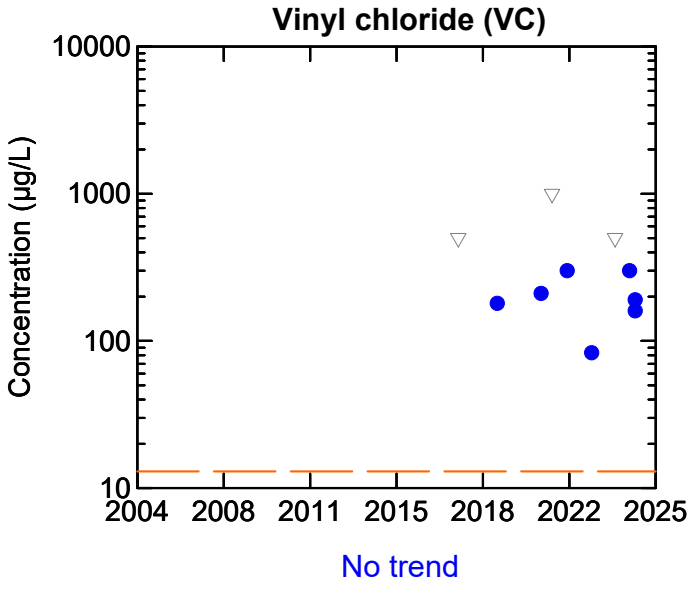
No trend



No trend



No trend



No trend

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

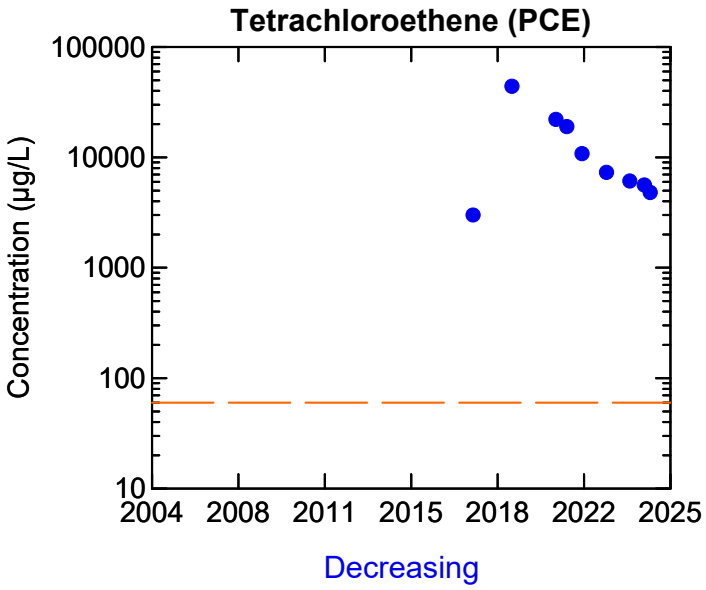
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

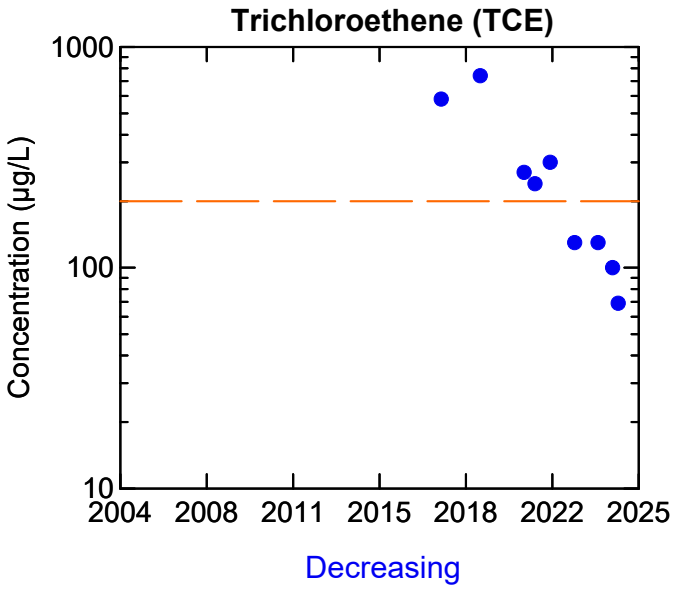
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

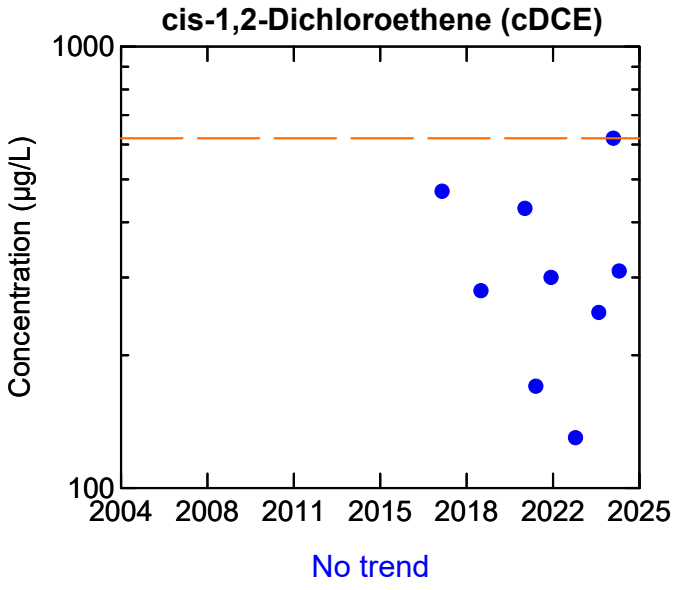
GHD-1134M



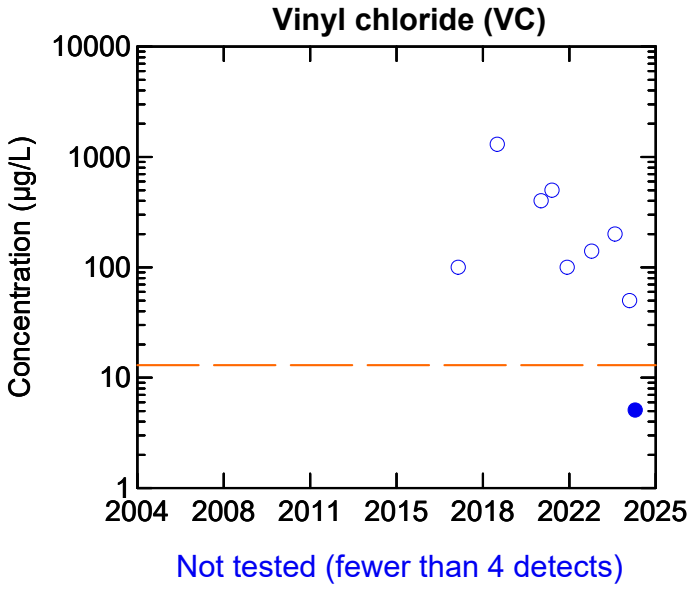
Decreasing



Decreasing



No trend



Not tested (fewer than 4 detects)

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

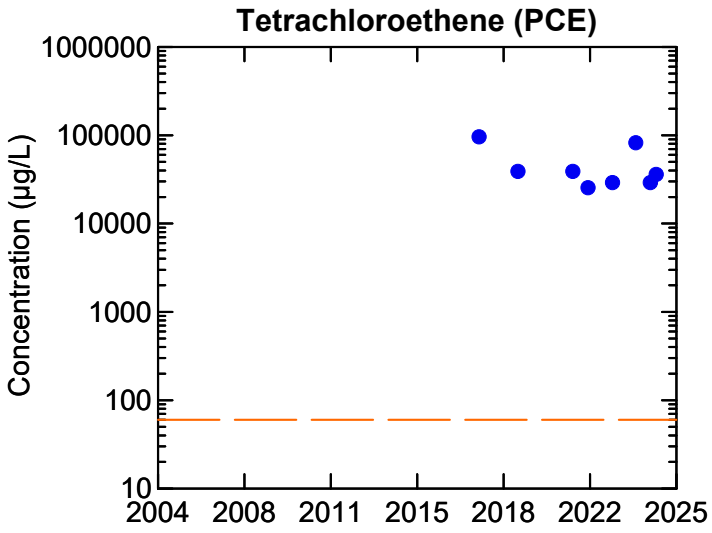
GHD

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

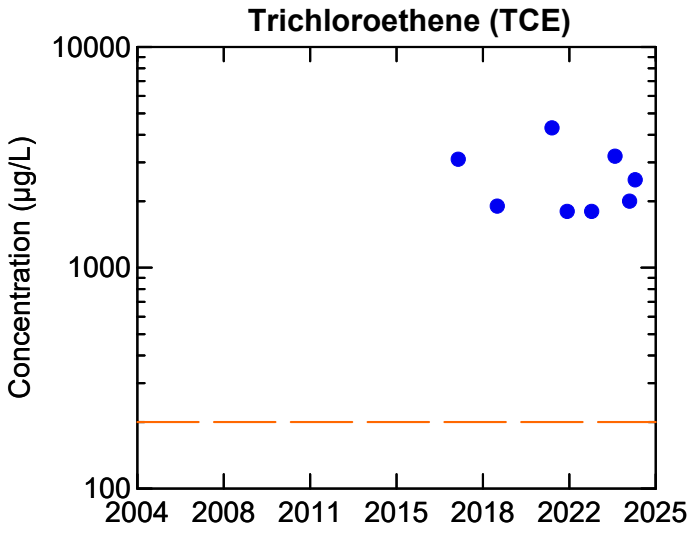
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

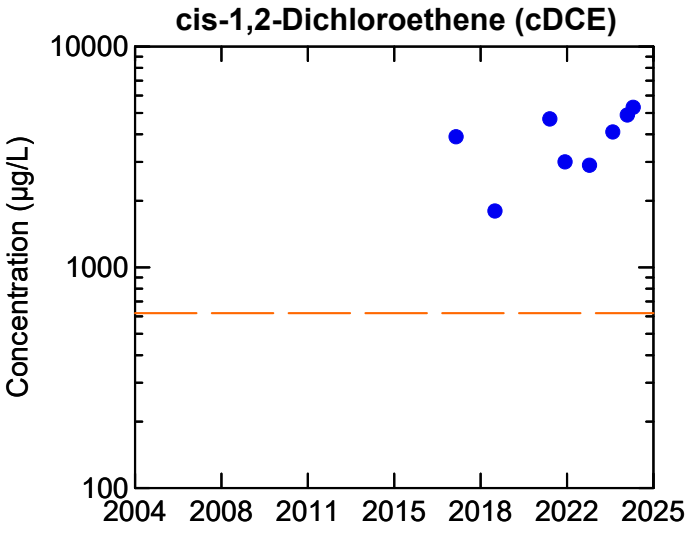
GHD-1145M



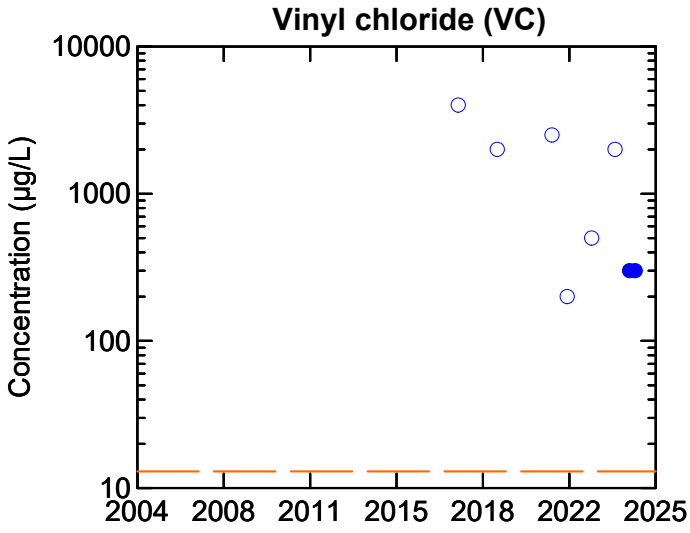
No trend



No trend



No trend



Not tested (fewer than 4 detects)

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

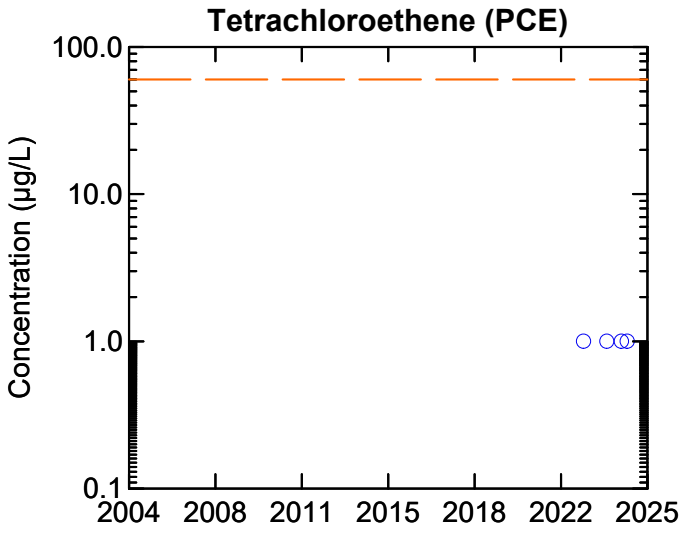
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

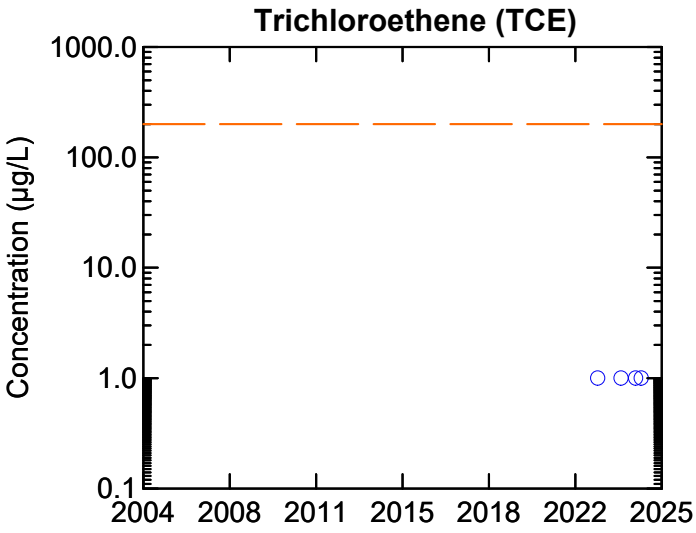
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

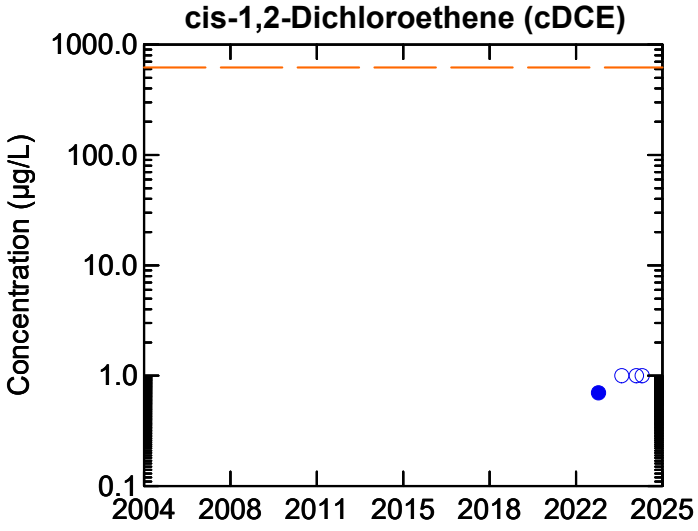
GHD-1151M



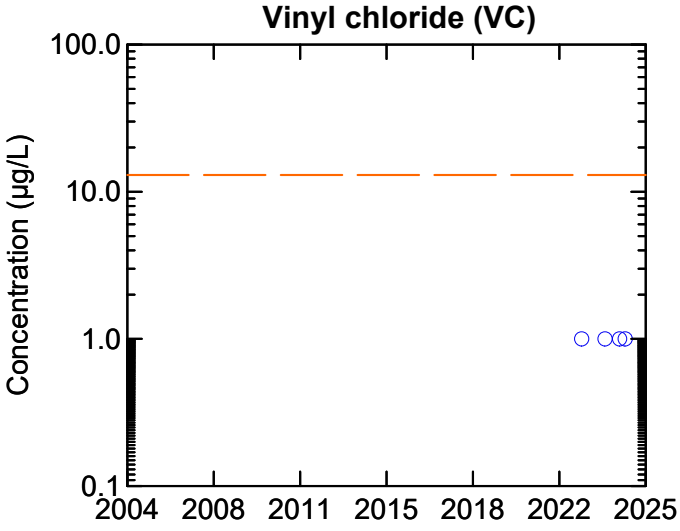
No detected results



No detected results



Not tested (fewer than 4 detects)



No detected results

Legend:

— Groundwater/Surface water Interface (GSI) criterion
● Detected Result
○ Non-detect (plotted at detection limit)

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

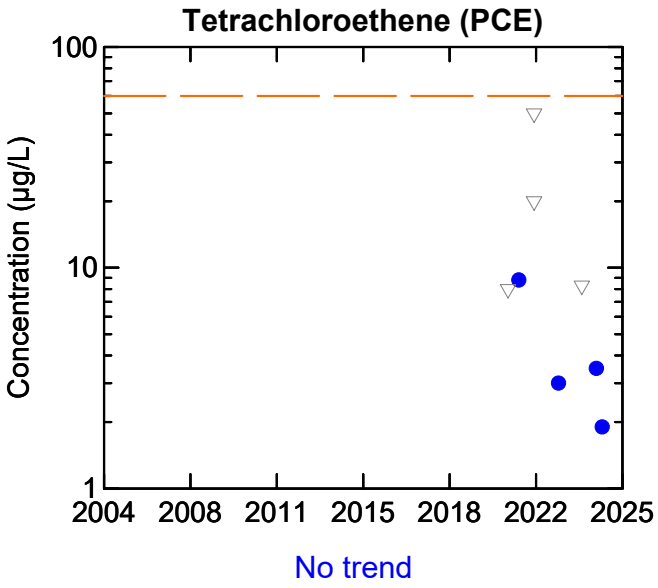
GHD

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

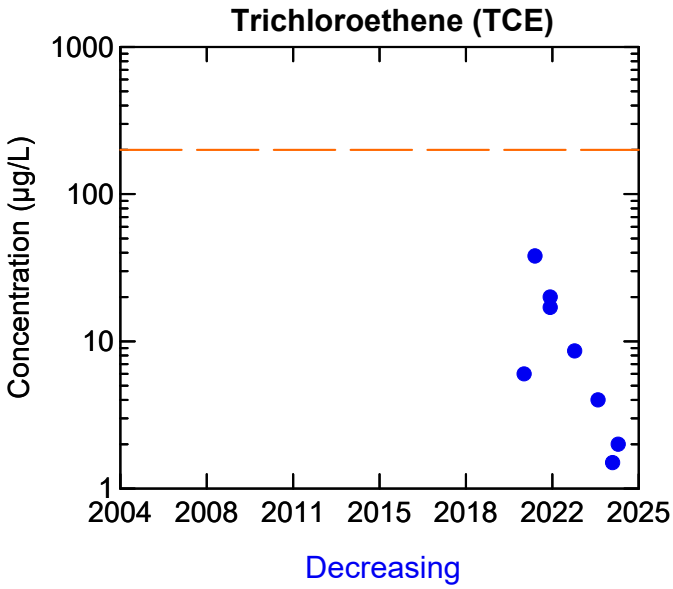
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

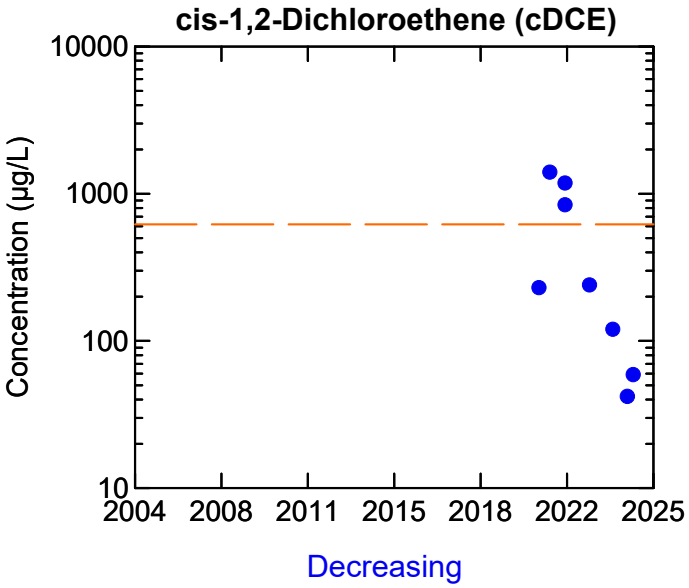
GHD-1209M



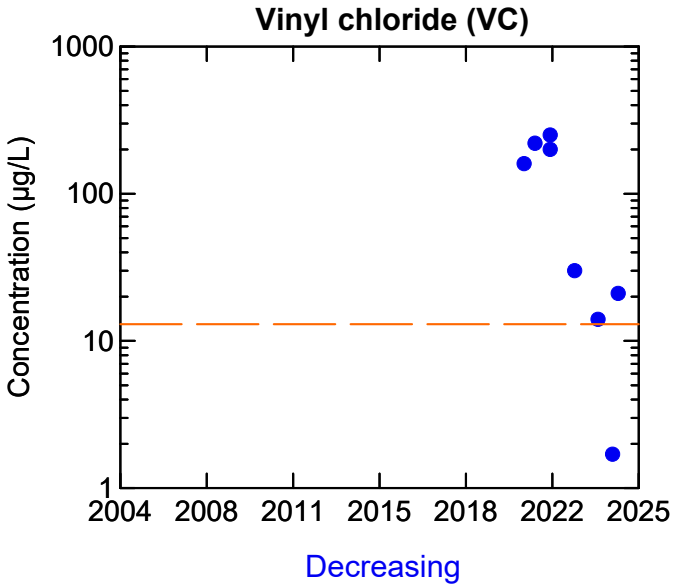
No trend



Decreasing



Decreasing



Decreasing

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

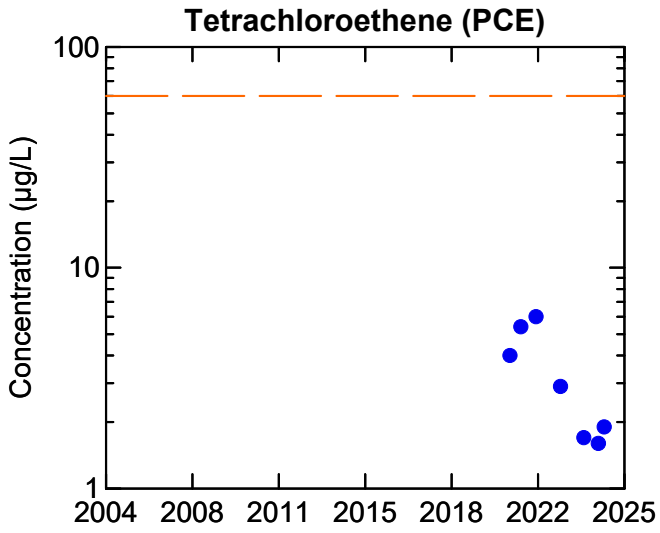
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

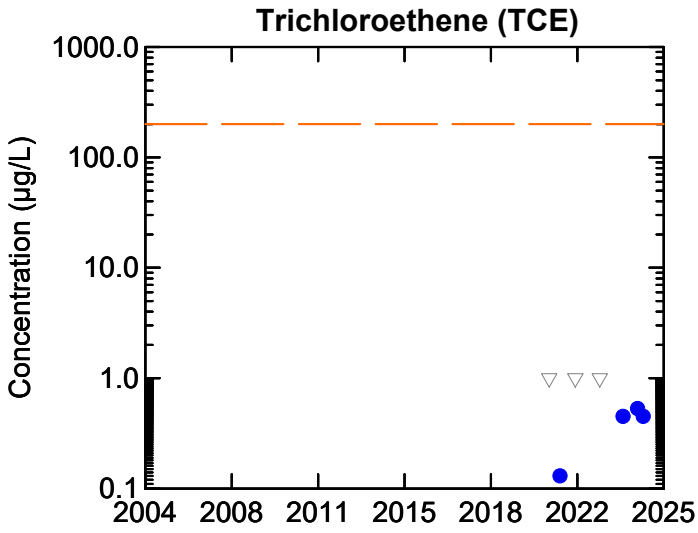
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

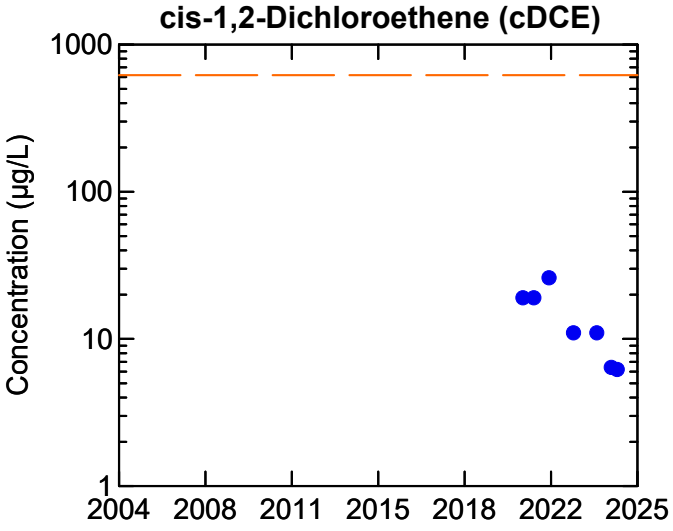
GHD-1220M



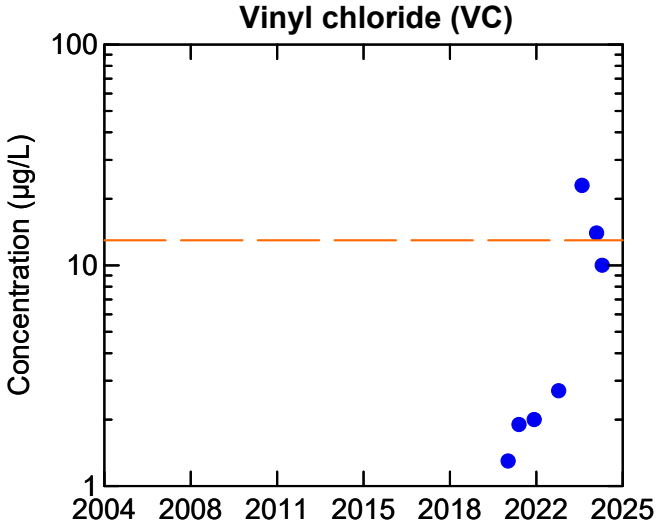
No trend



No trend



Decreasing



Increasing

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Ambiguous non-detect with high detection limit excluded from trend test.

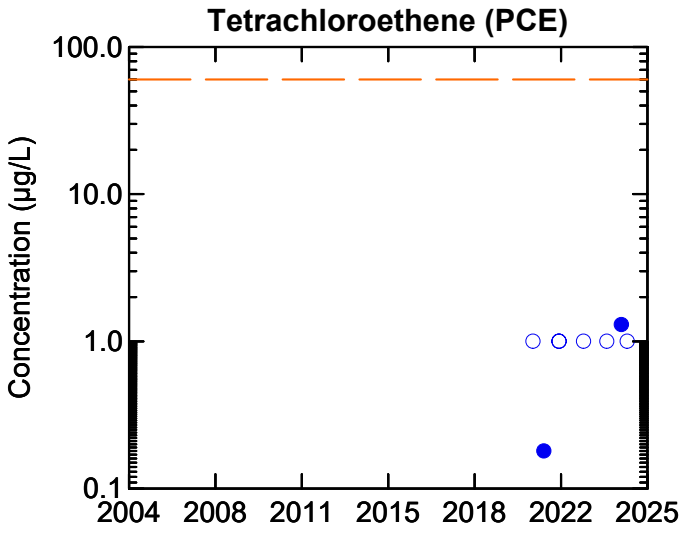
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

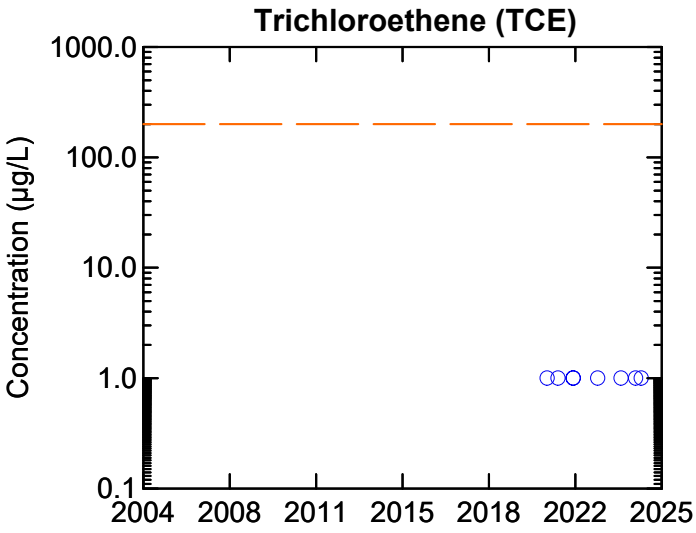
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

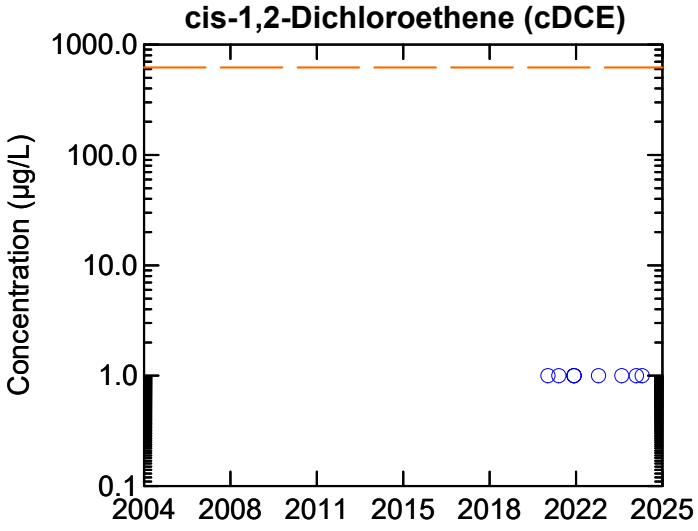
GHD-1223M



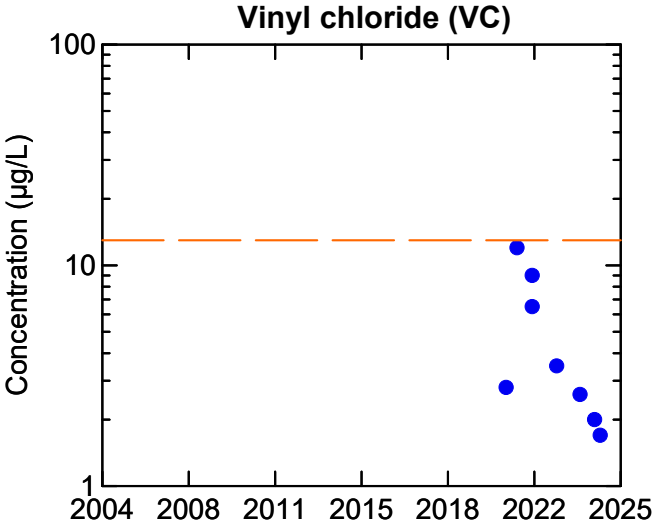
Not tested (fewer than 4 detects)



No detected results



No detected results



Decreasing

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

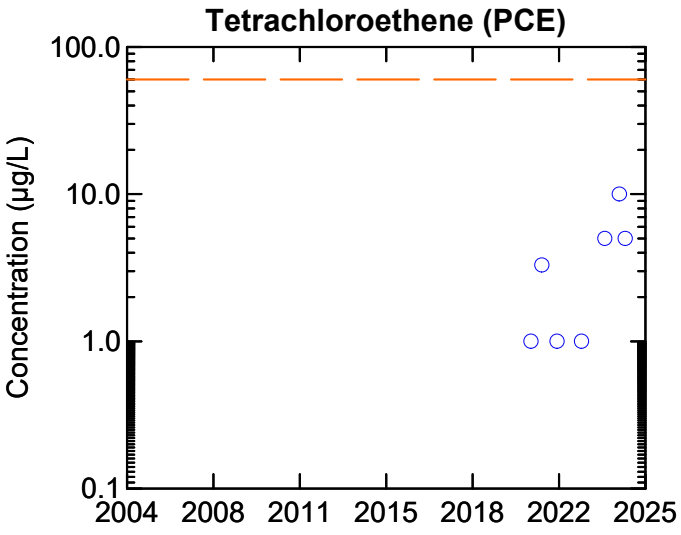
GHD

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

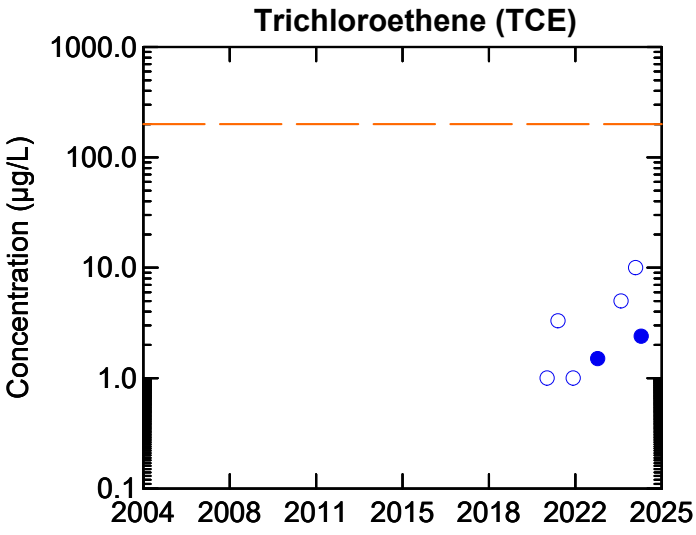
CONCENTRATION vs. TIME IN GROUNDWATER

Project No. **12602792**
Date: **Aug 2, 2024**

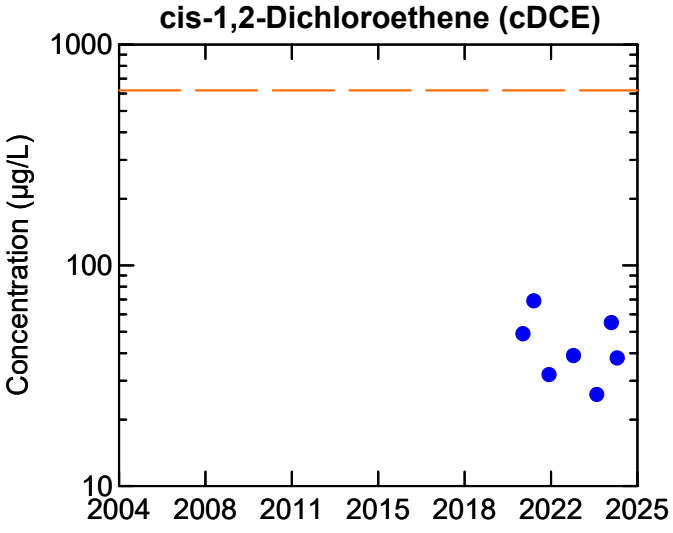
GHD-1226M



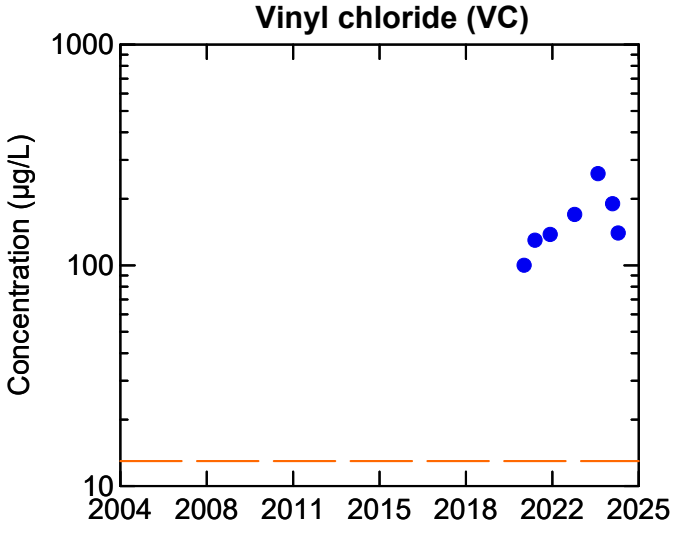
No detected results



Not tested (fewer than 4 detects)



No trend



No trend

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)

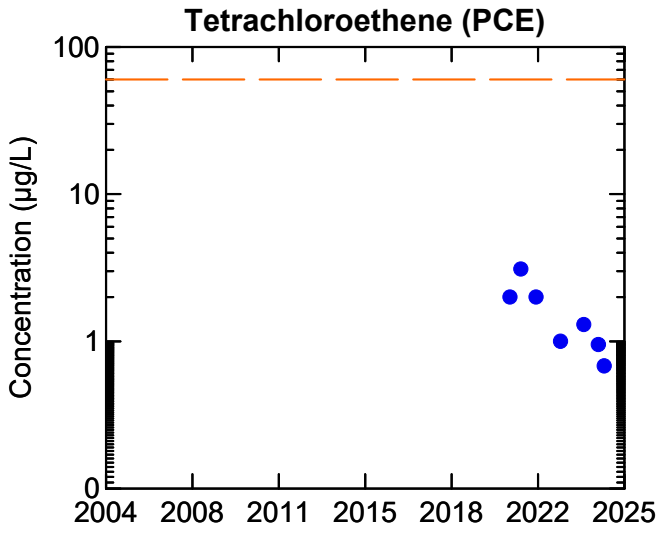
Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

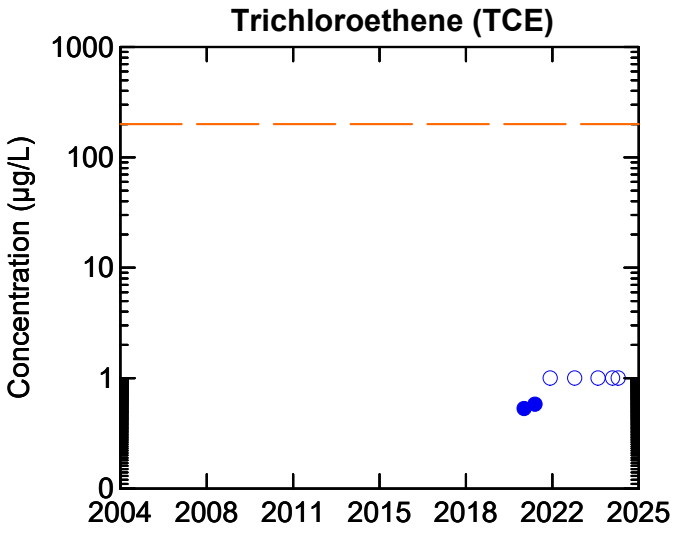
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

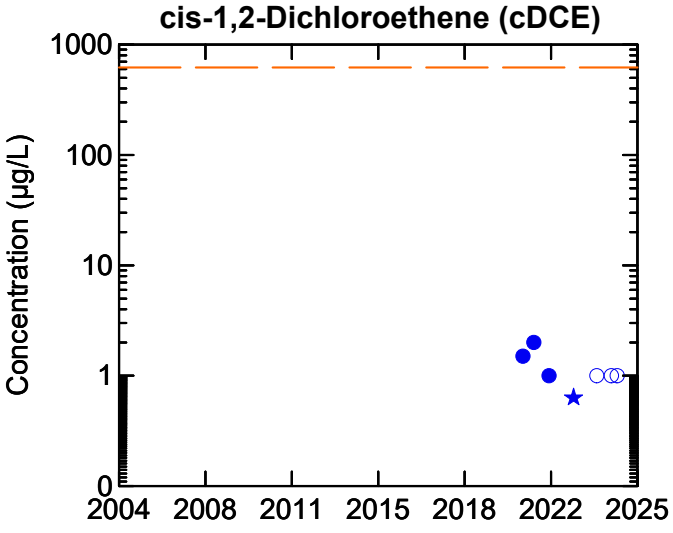
GHD-1229M



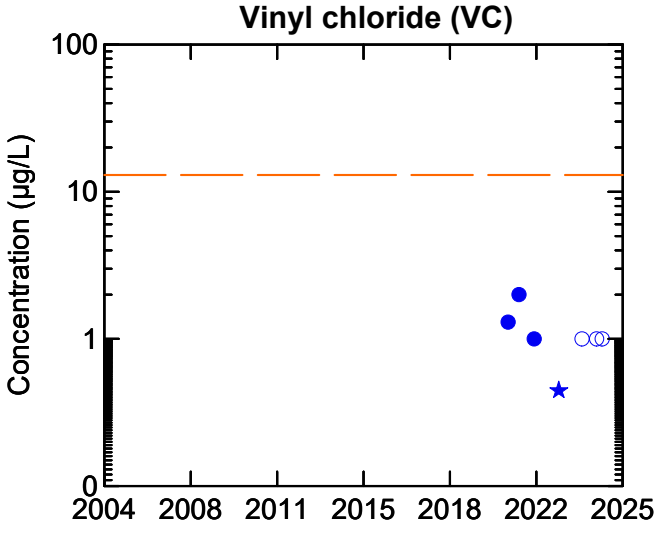
Decreasing



Not tested (fewer than 4 detects)



No trend



No trend

Legend:

- Groundwater/Surface water Interface (GSI) criterion
- Detected Result
- Non-detect (plotted at detection limit)
- Low detected value (below detection limit) treated as a non-detect in trend test.

Note:
Trend results (blue text) from Mann-Kendall Test at 0.05 significance (95 percent confidence).

Former Willow Run Powertrain Plant
MID 980 587 893
Ypsilanti, Michigan

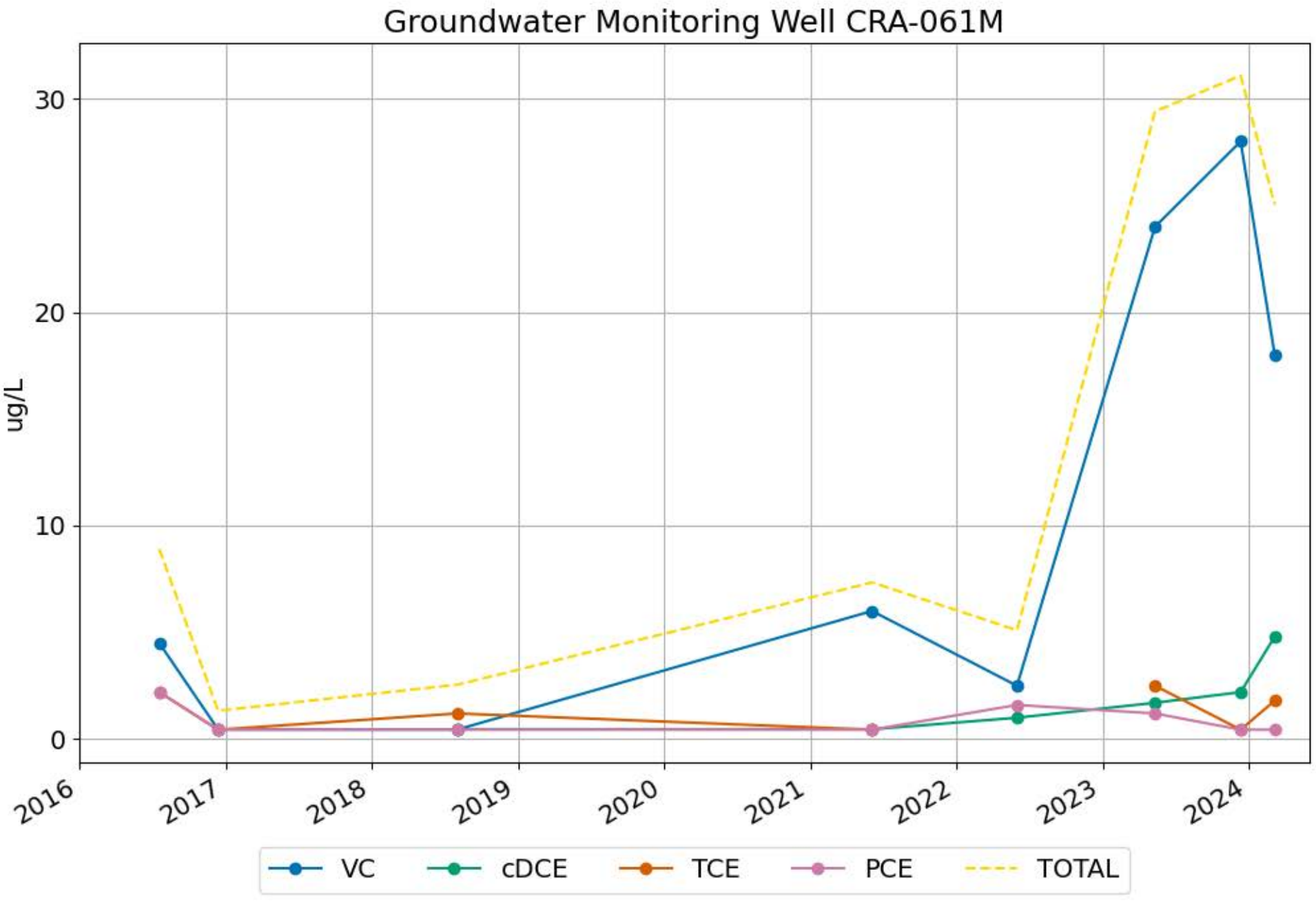
Project No. **12602792**
Date: **Aug 2, 2024**

CONCENTRATION vs. TIME IN GROUNDWATER

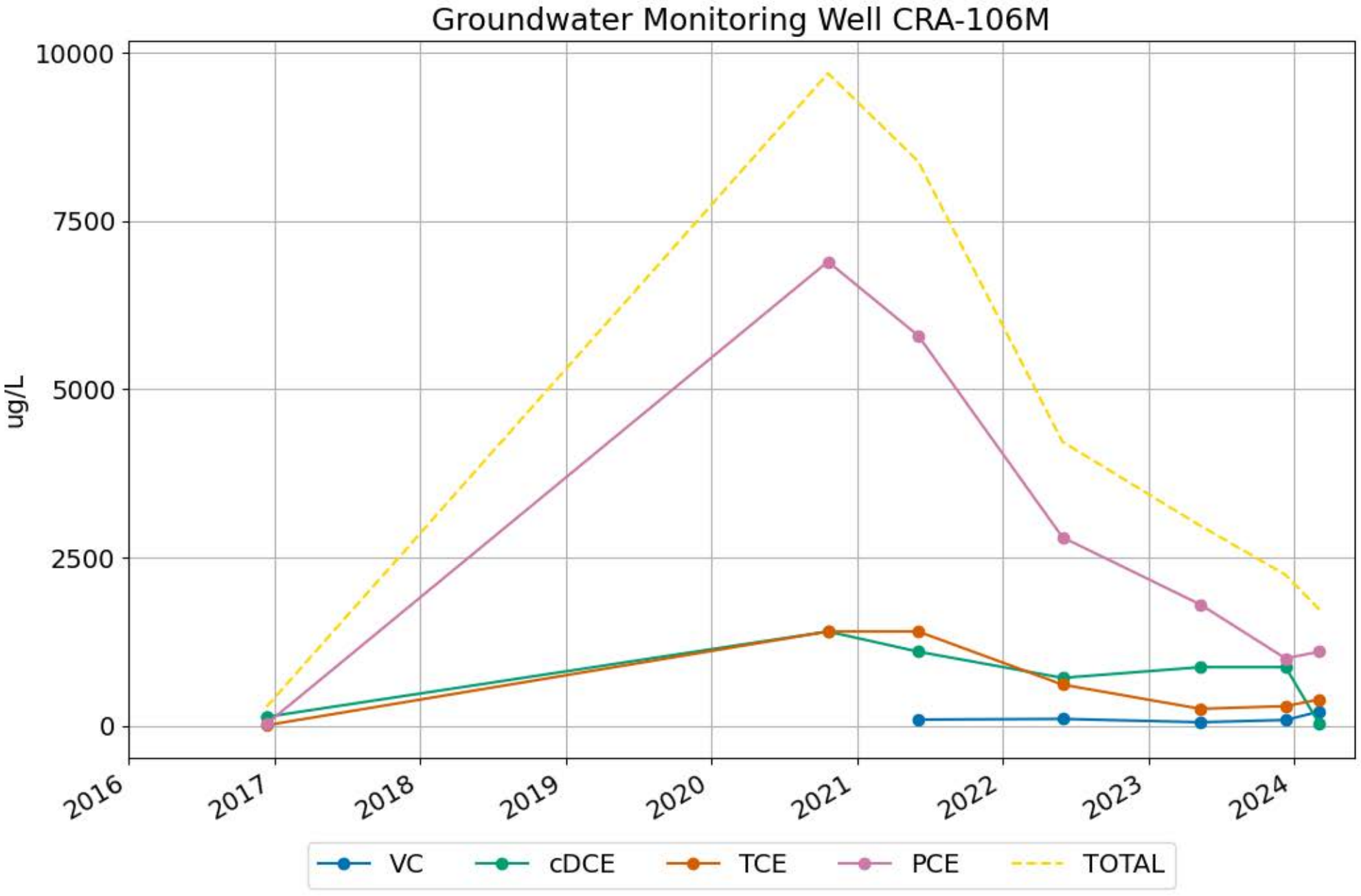
IG-1

Appendix E

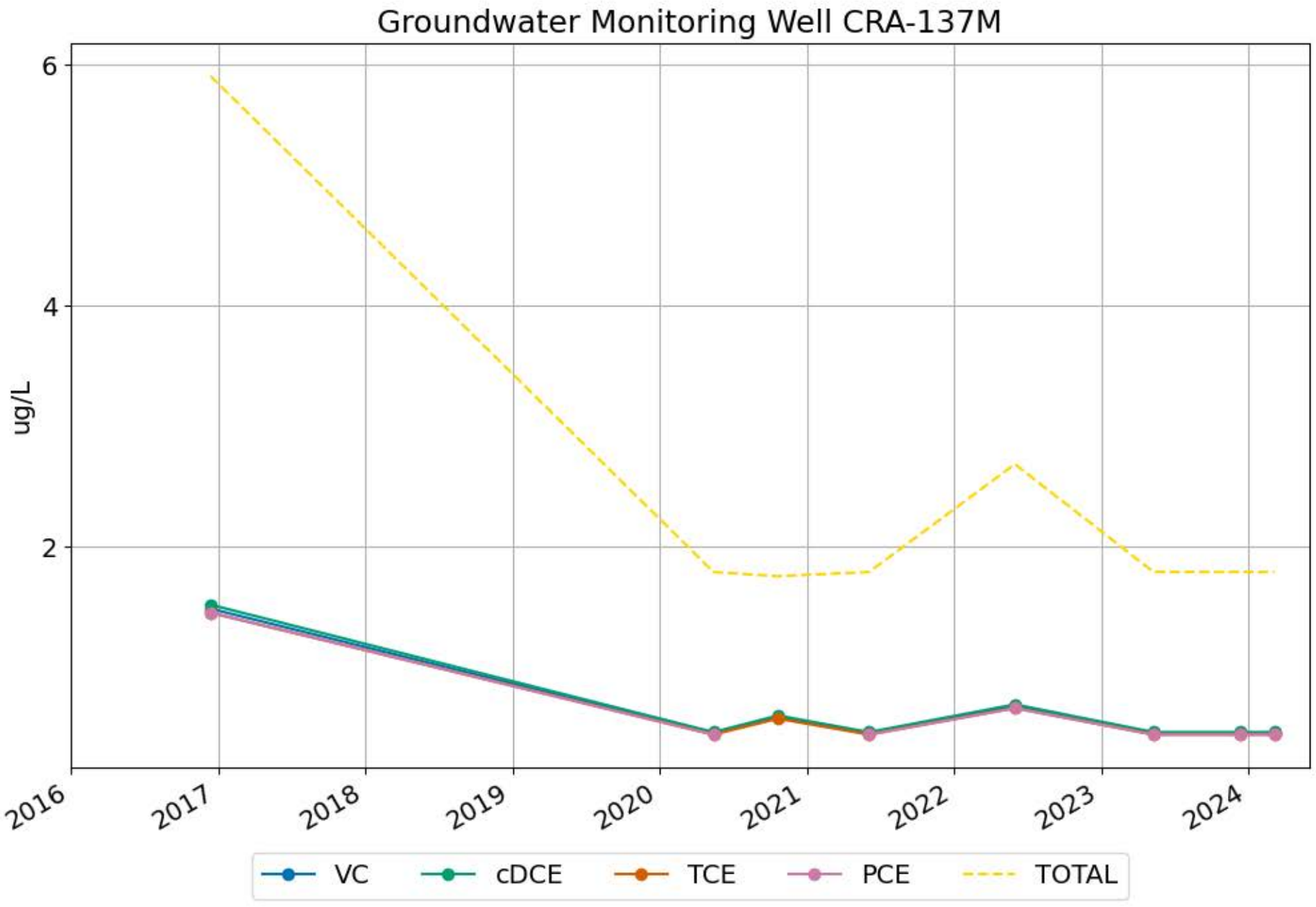
CVOC Concentration vs Time



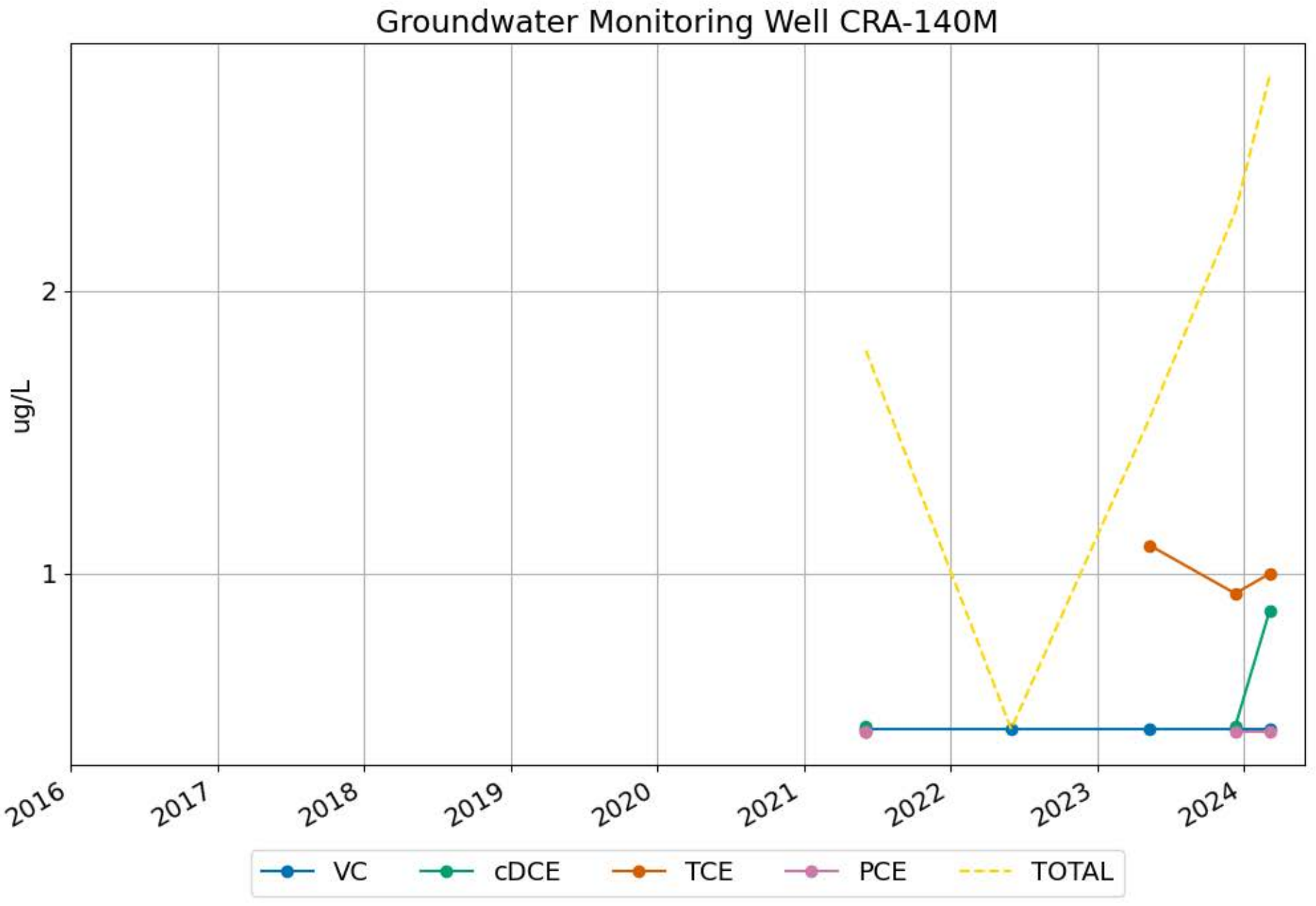
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



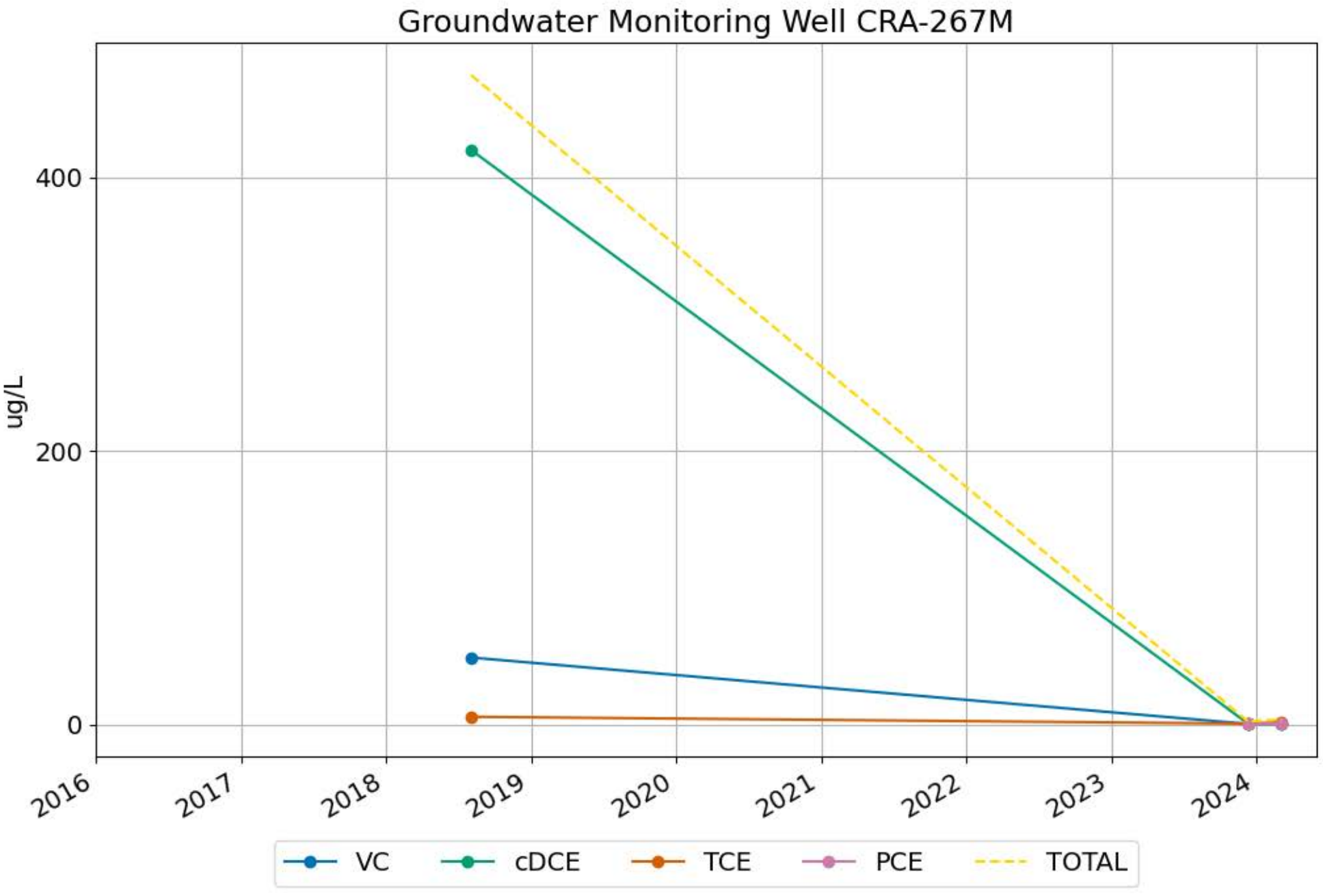
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



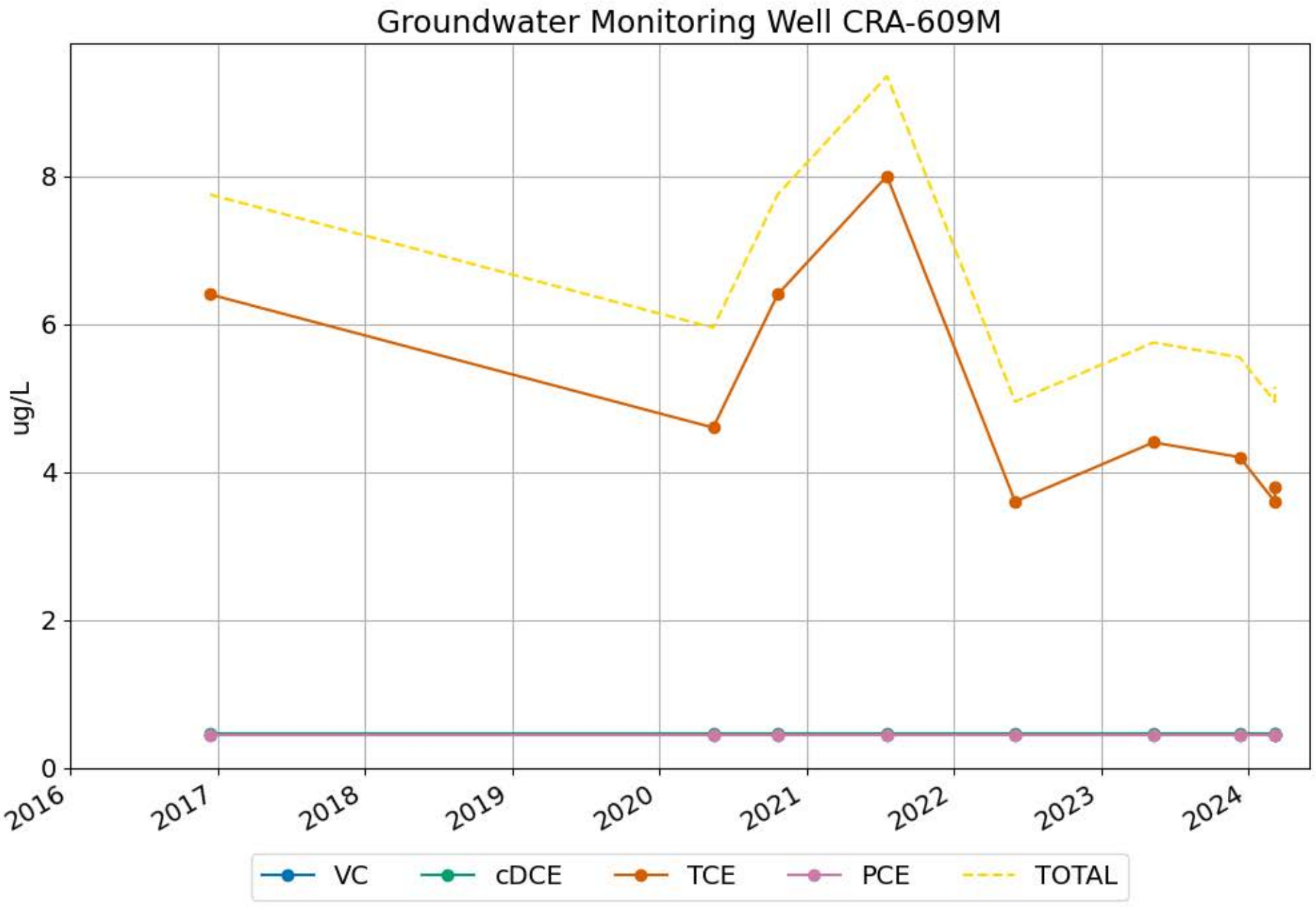
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



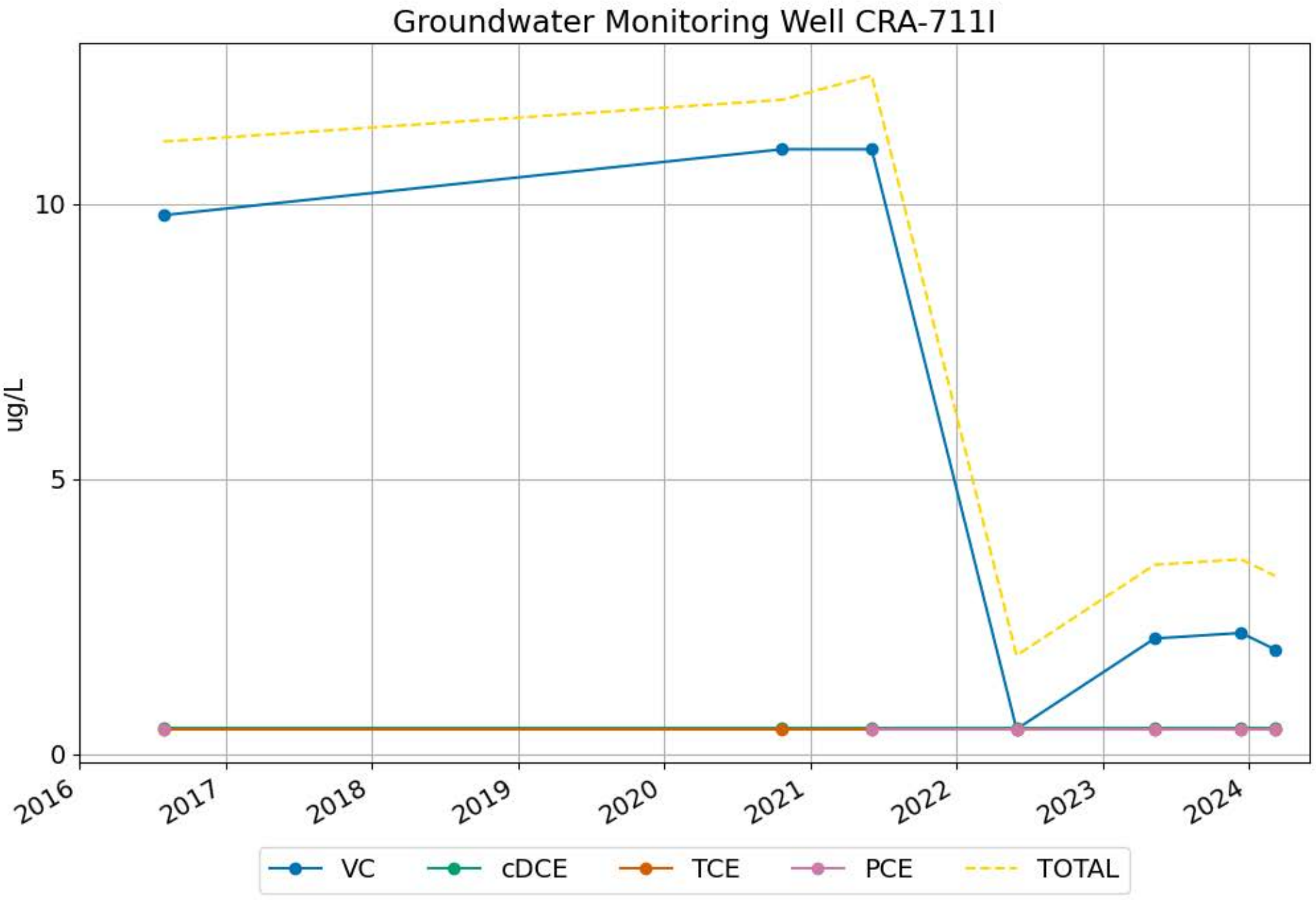
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



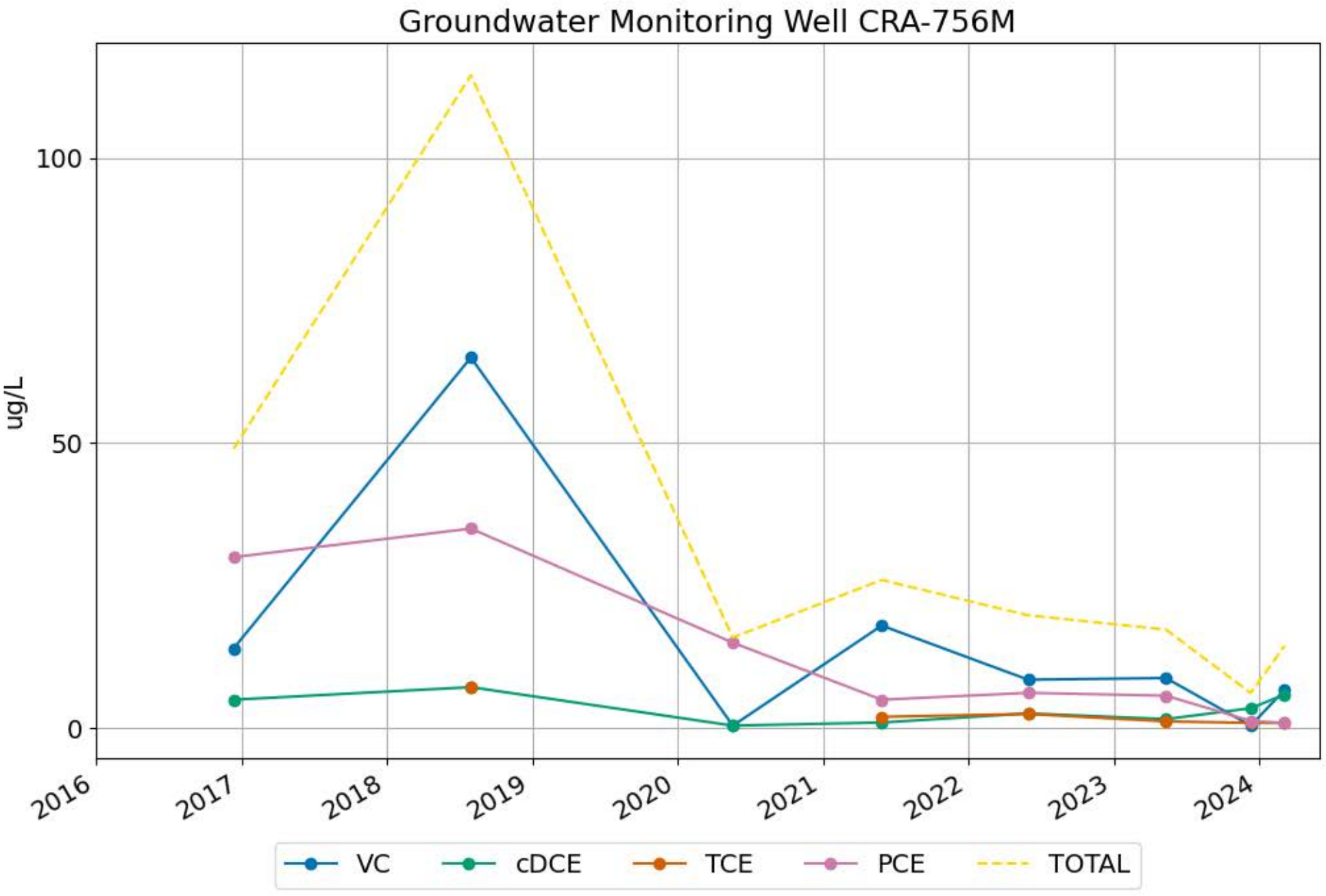
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



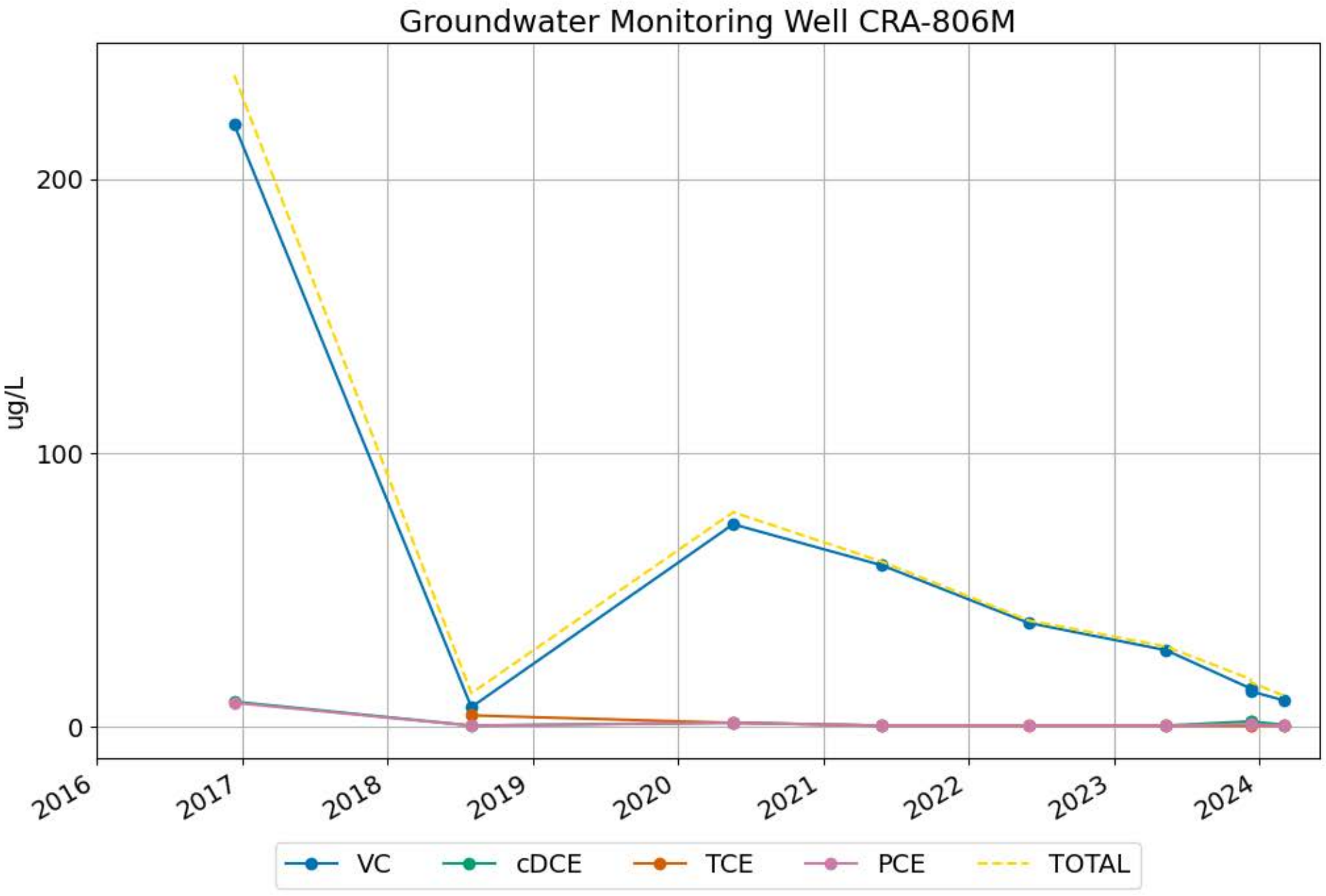
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



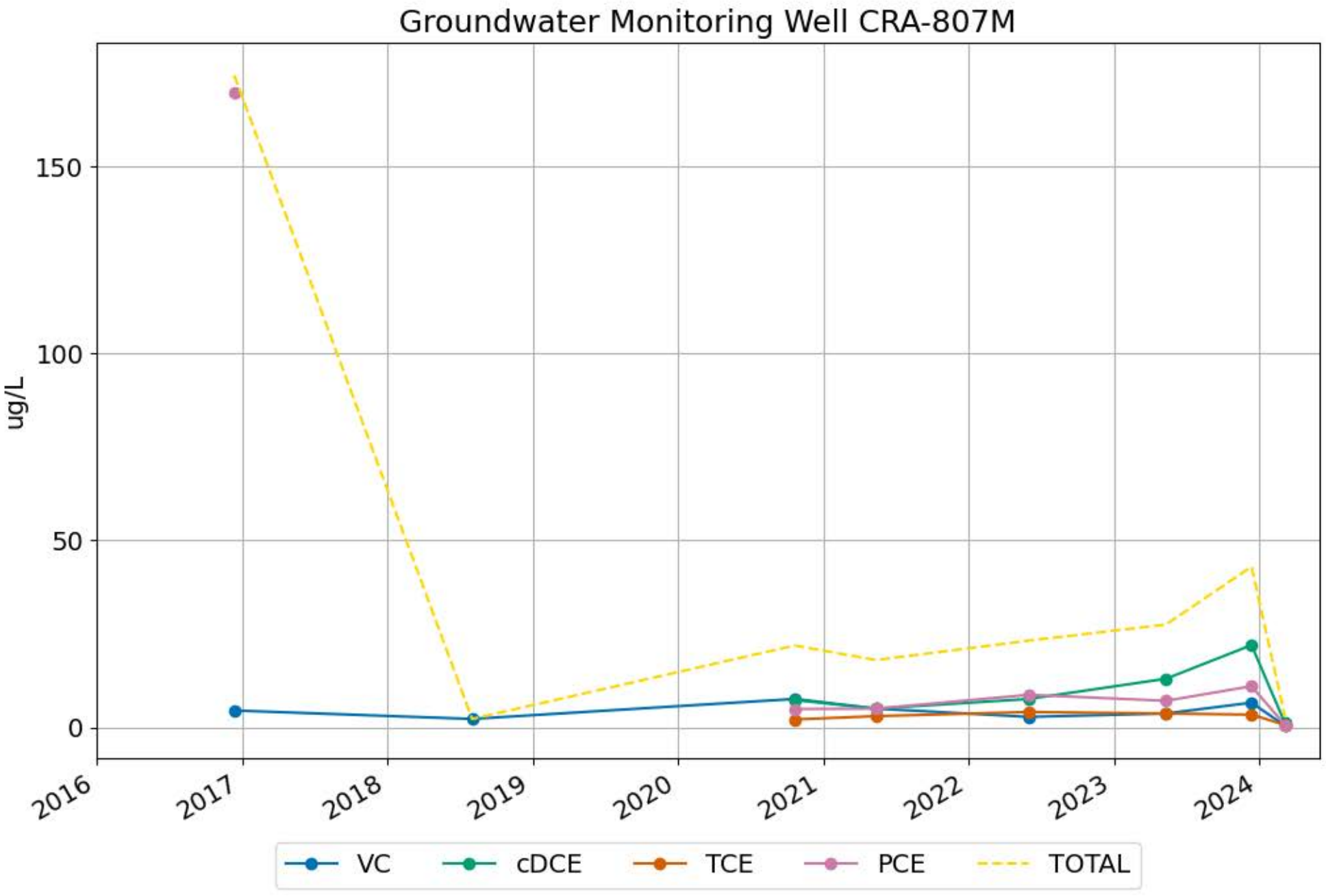
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



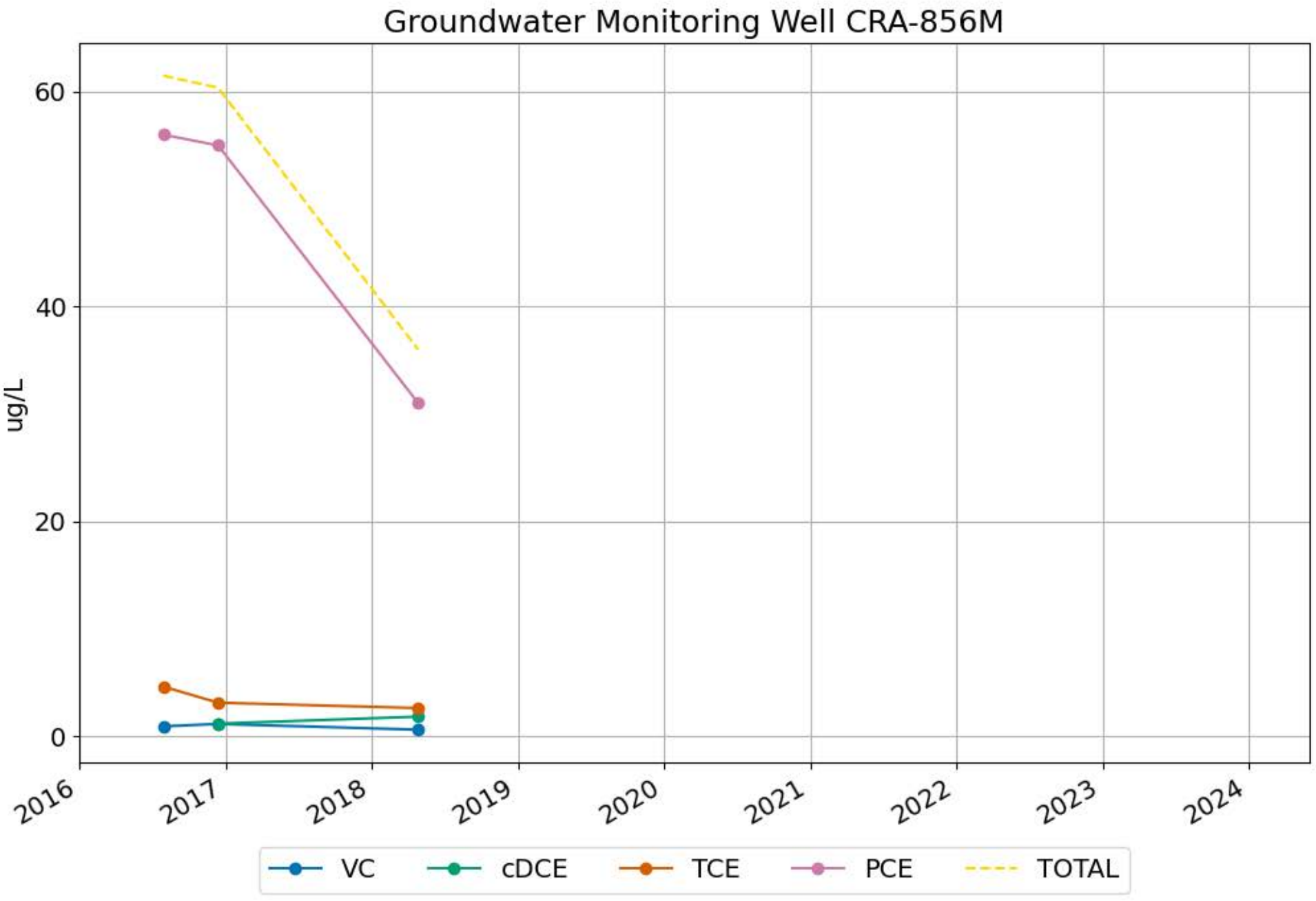
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



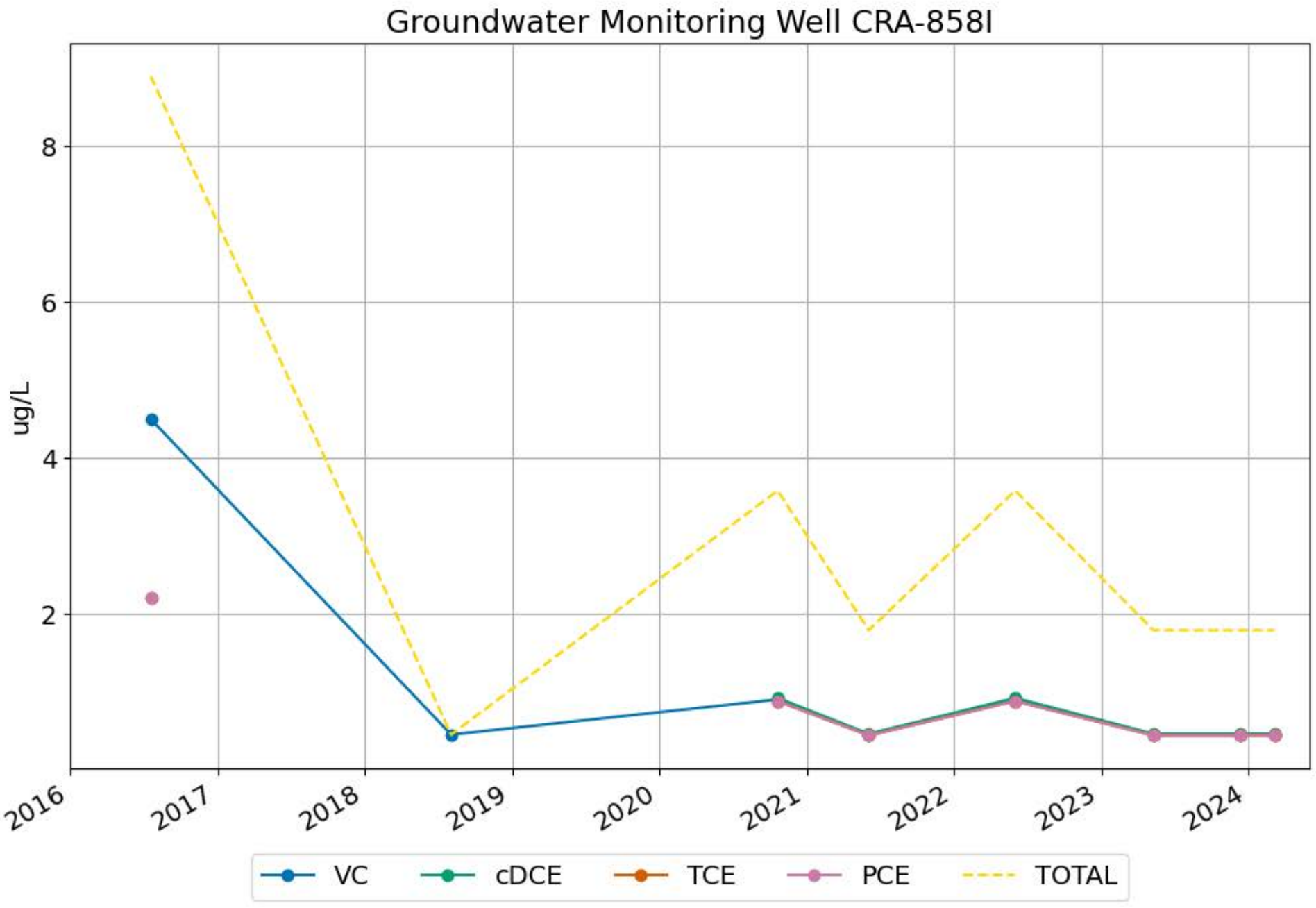
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



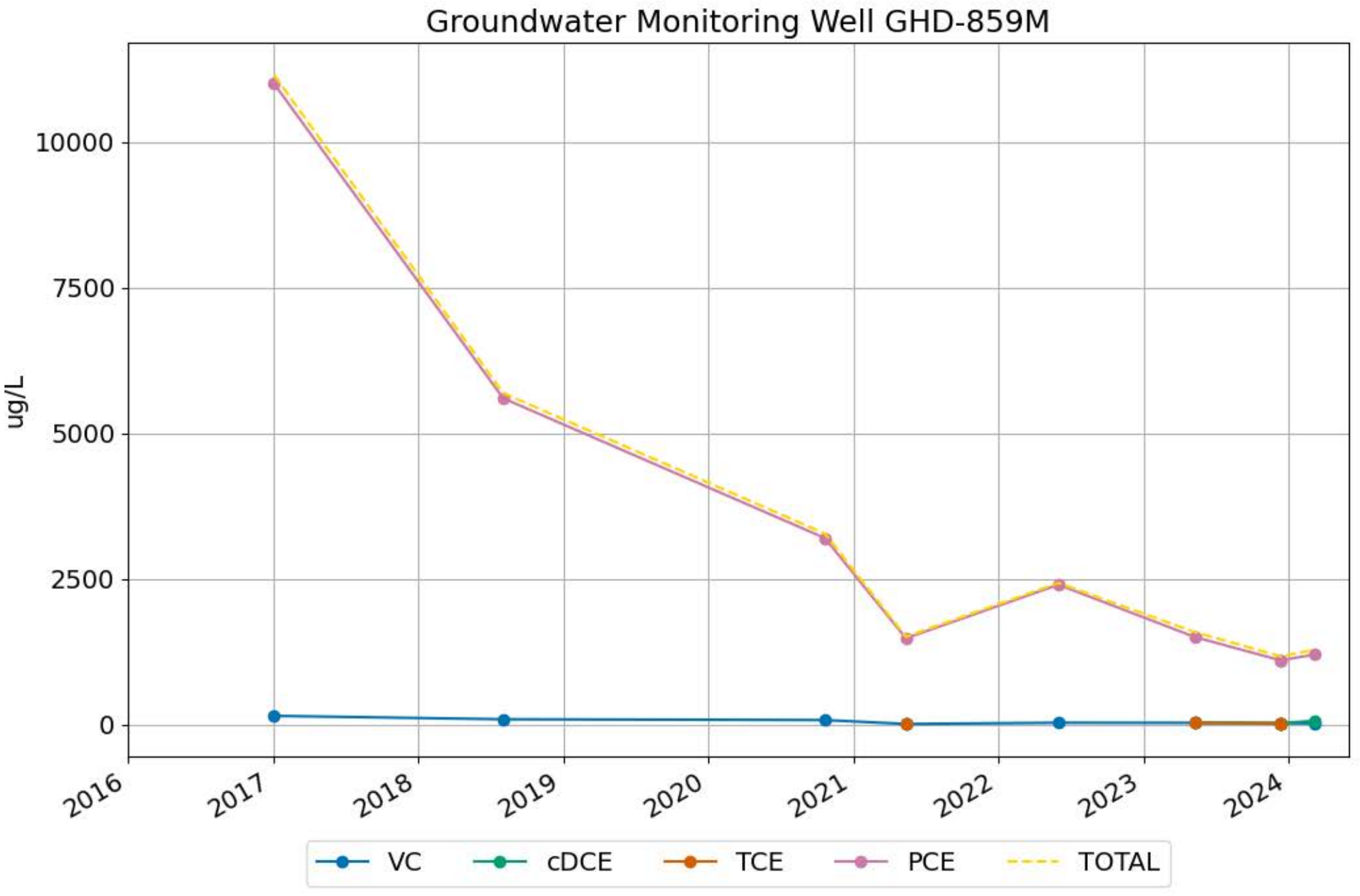
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



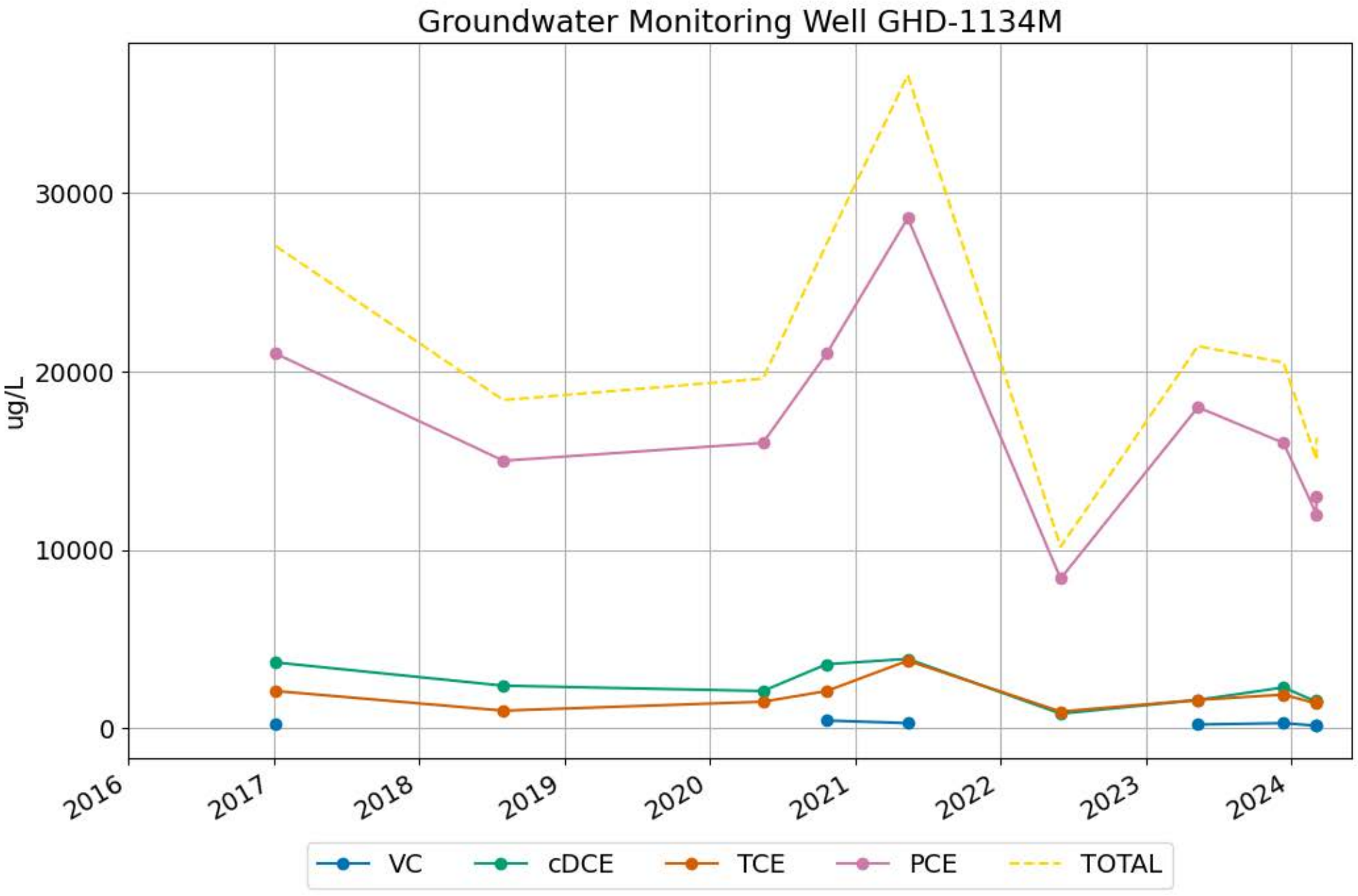
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



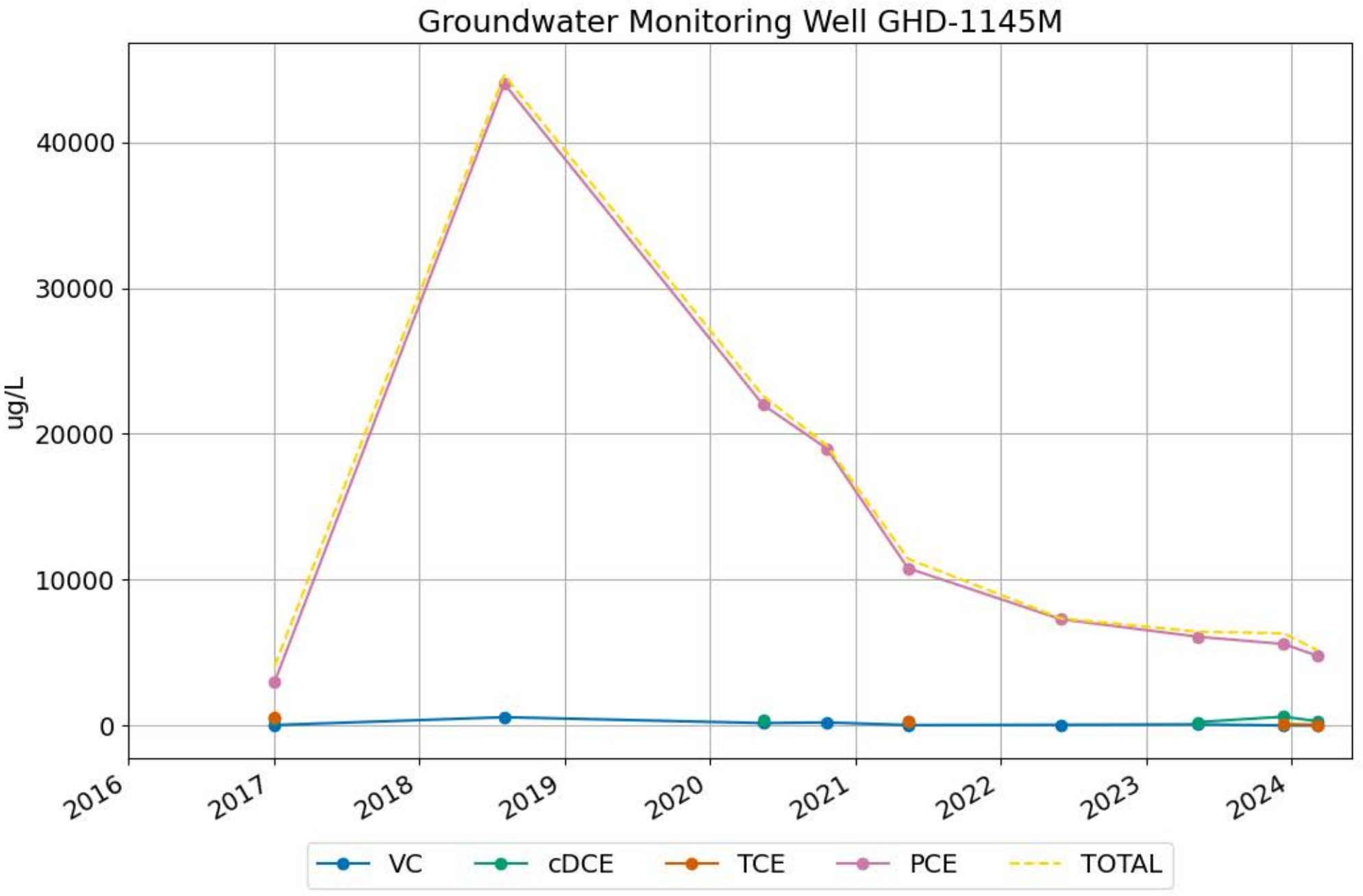
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



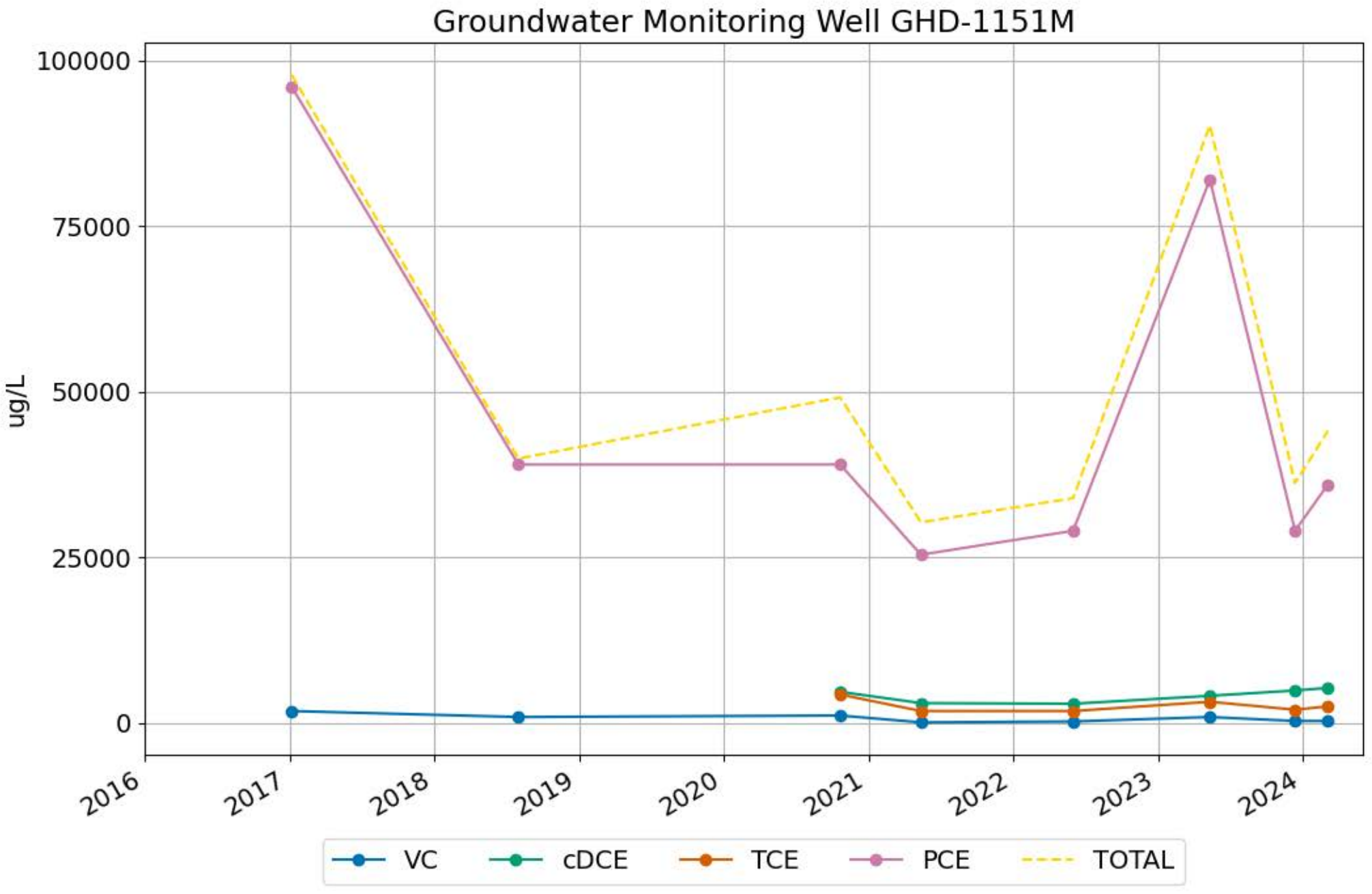
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



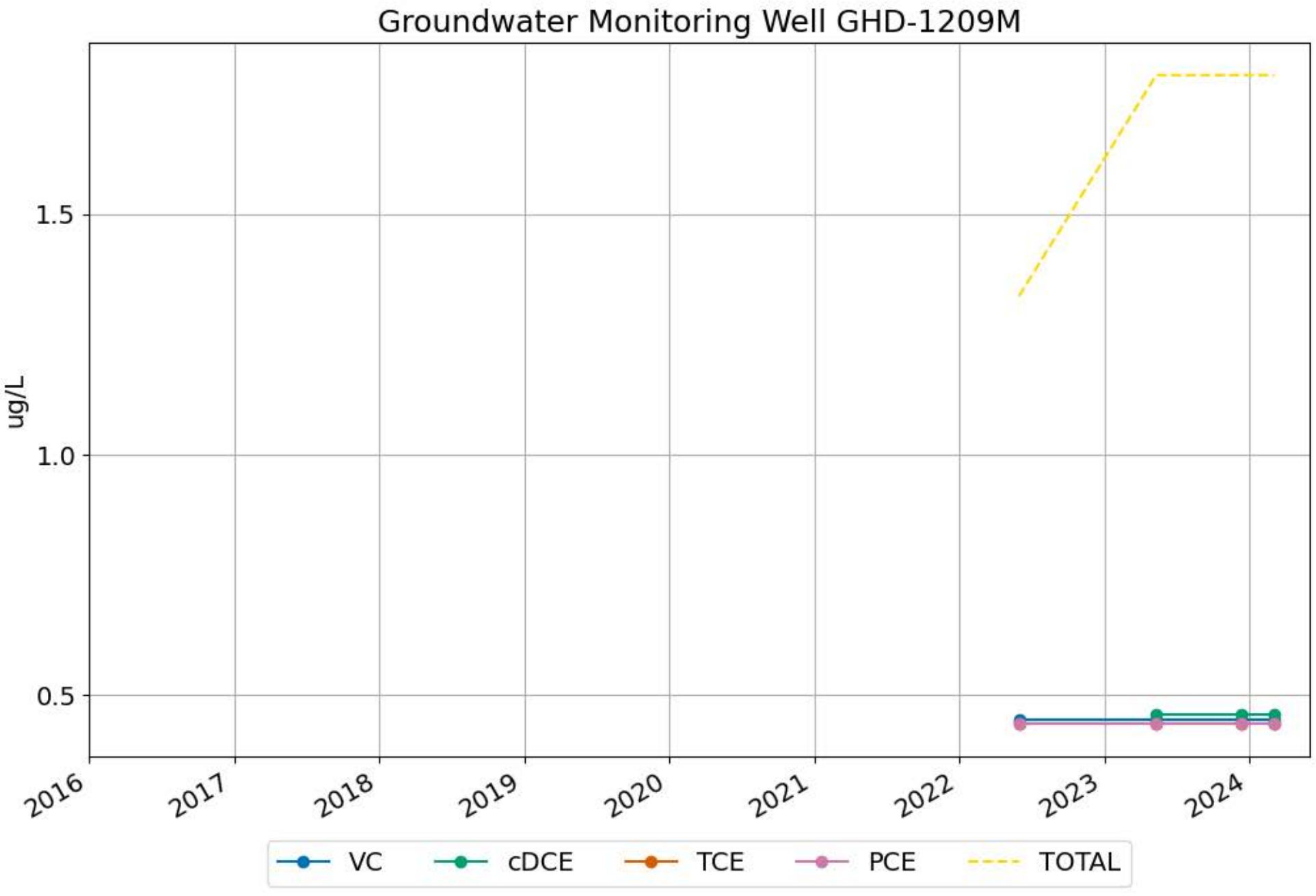
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



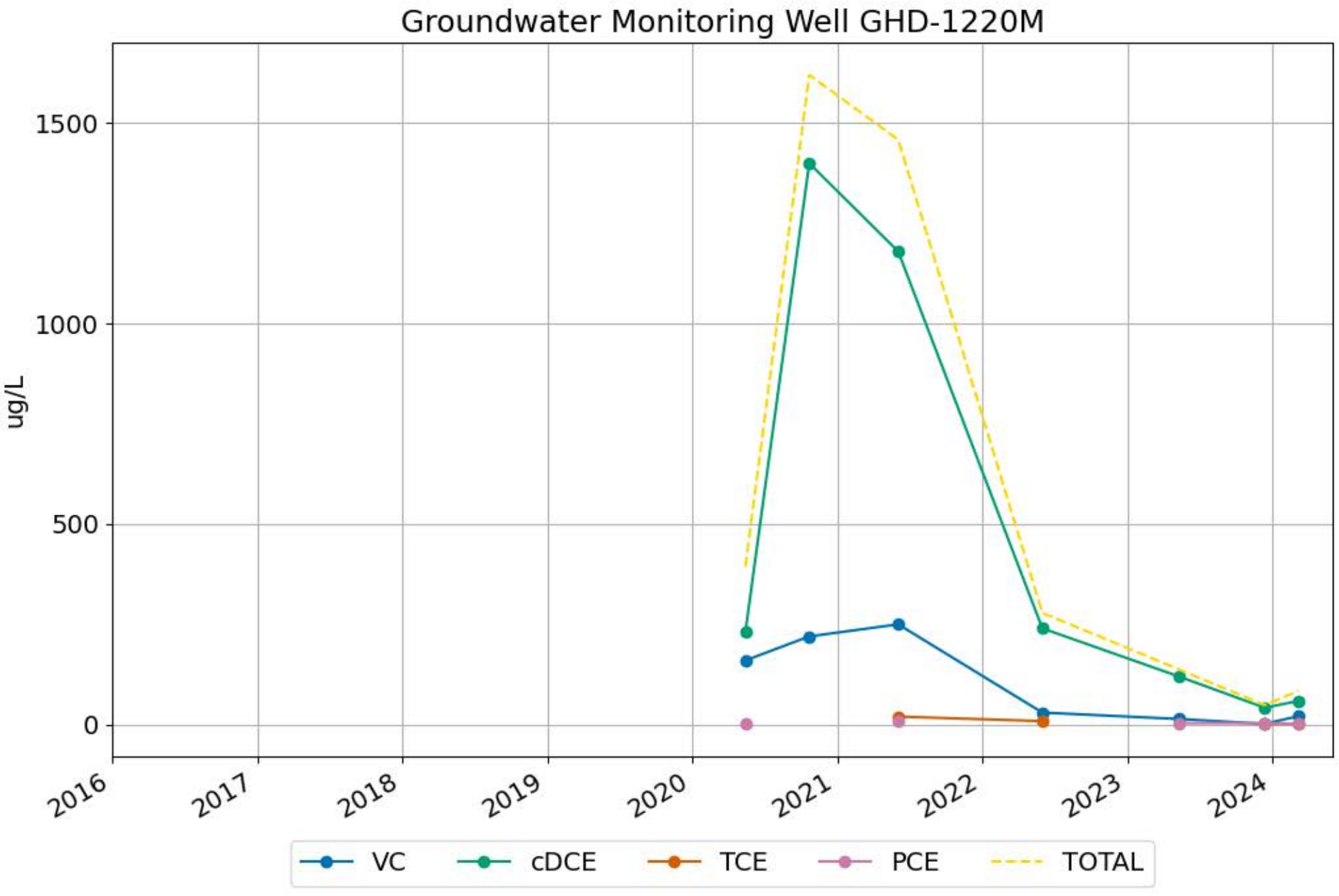
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



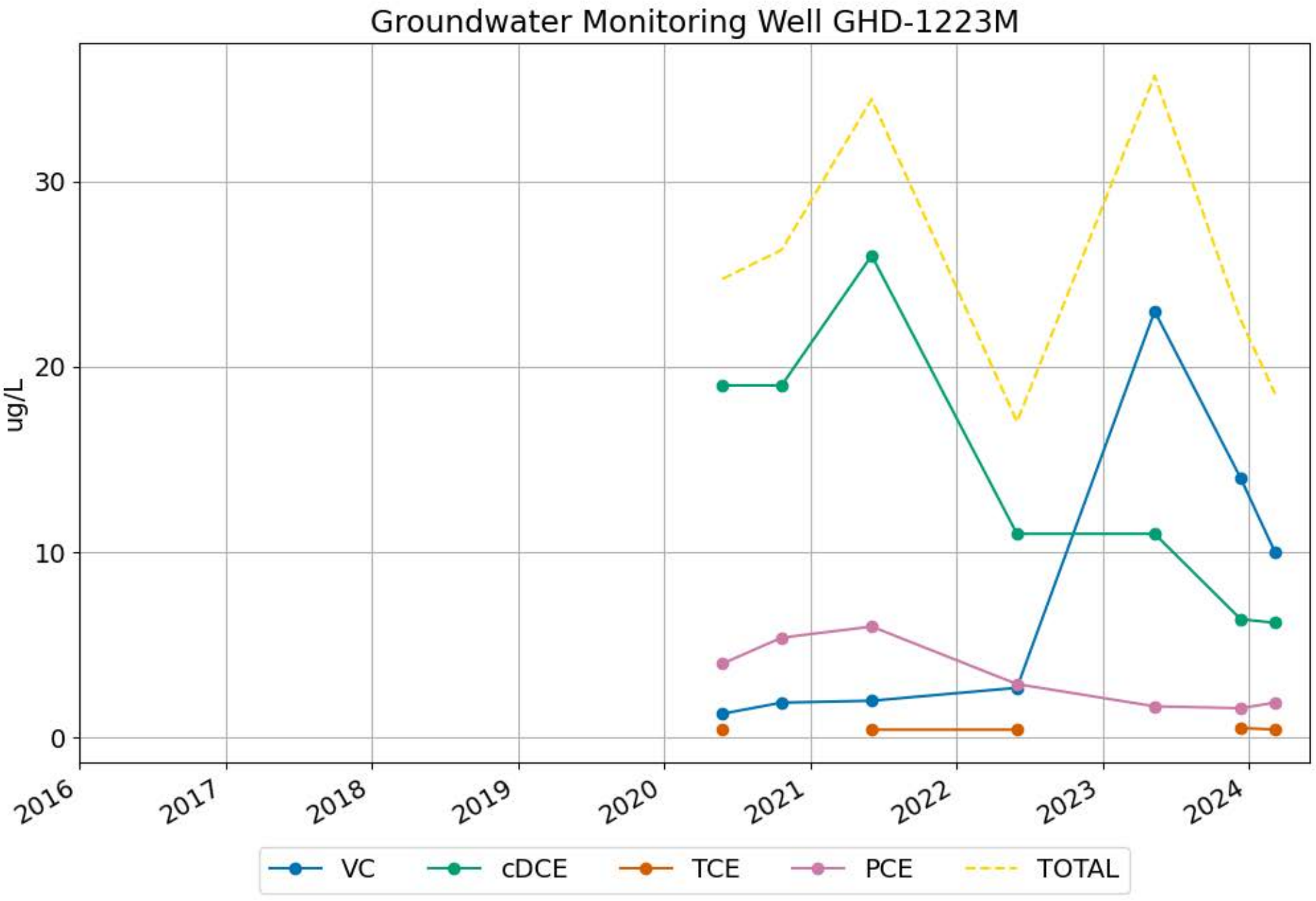
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



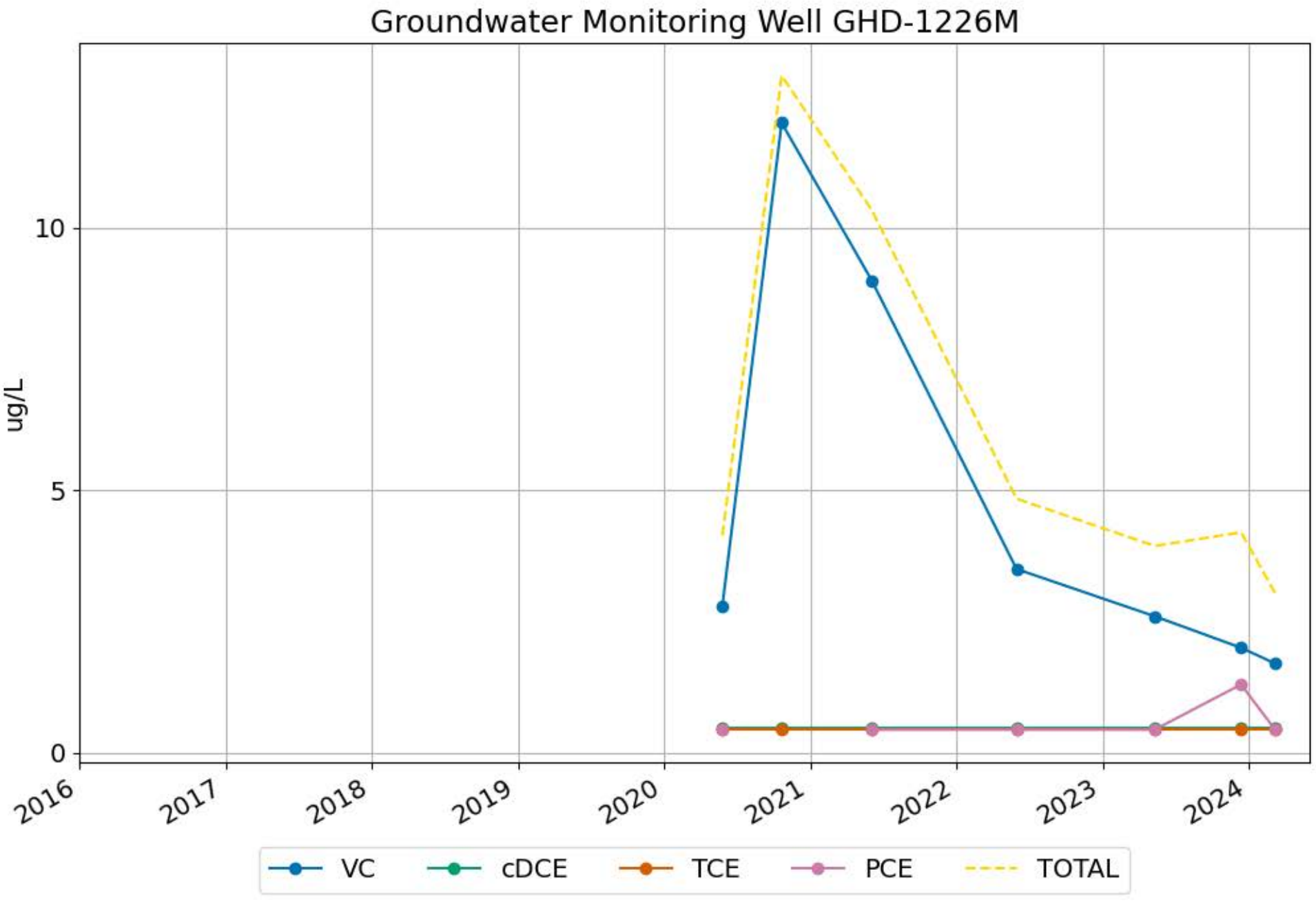
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



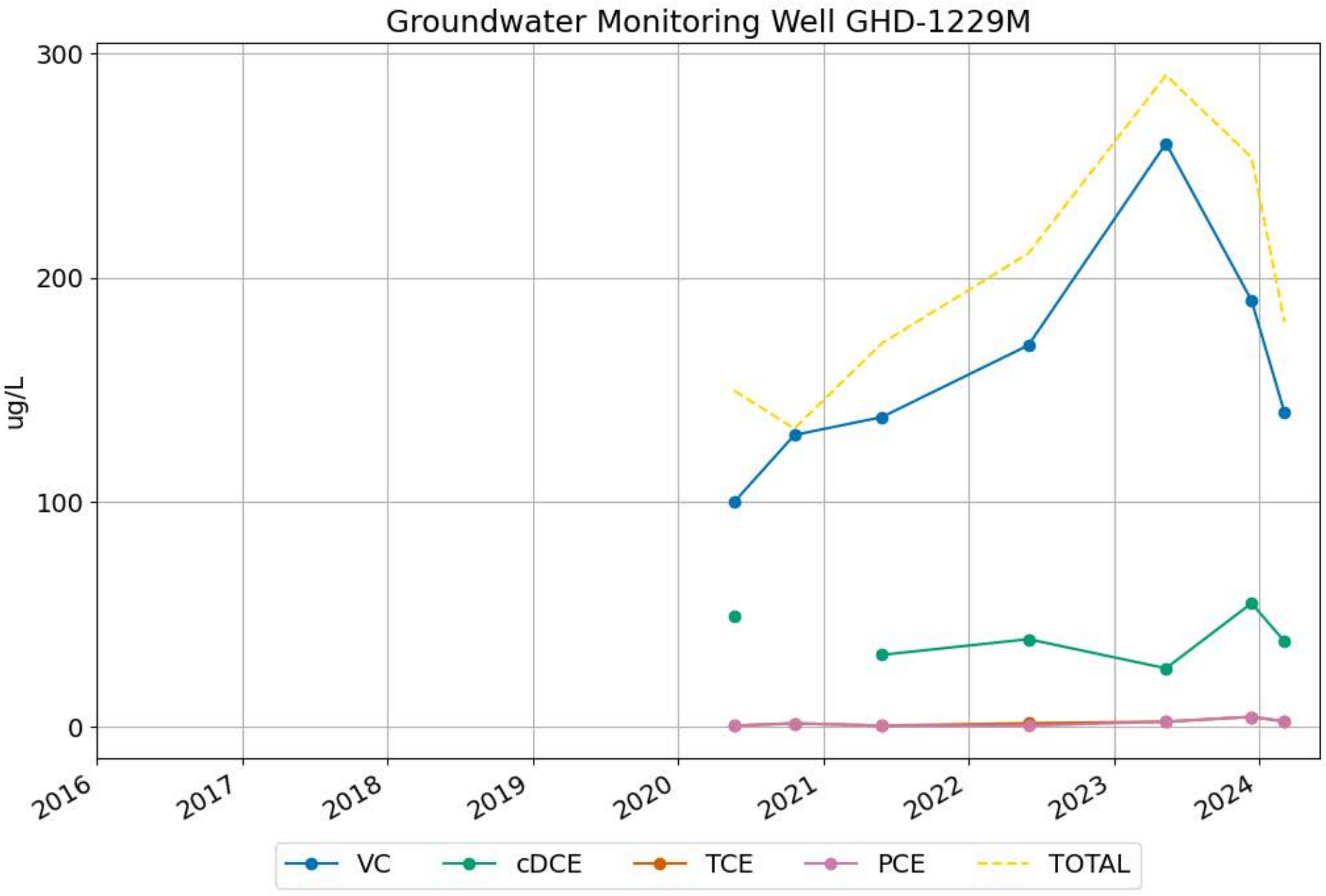
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



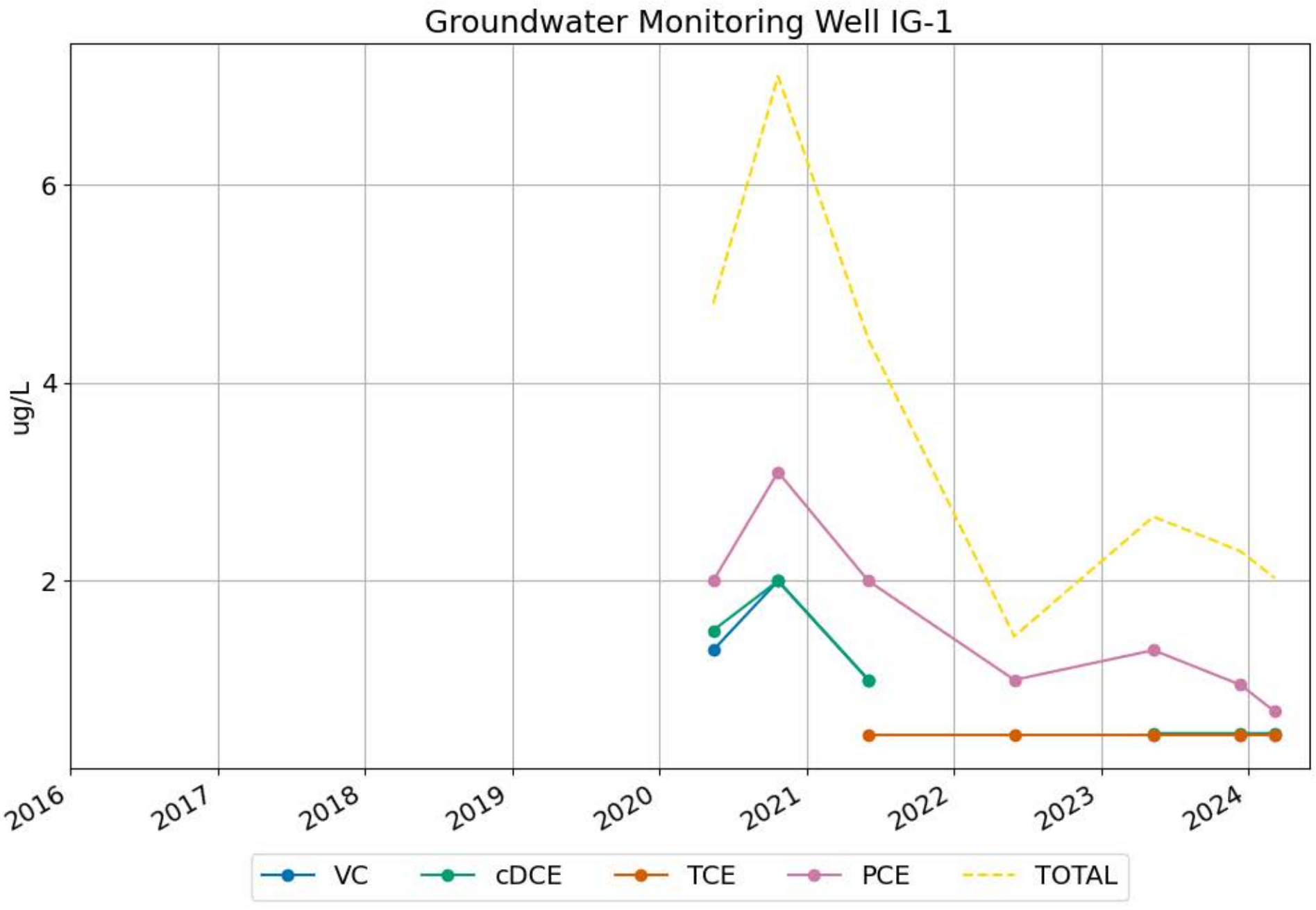
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method



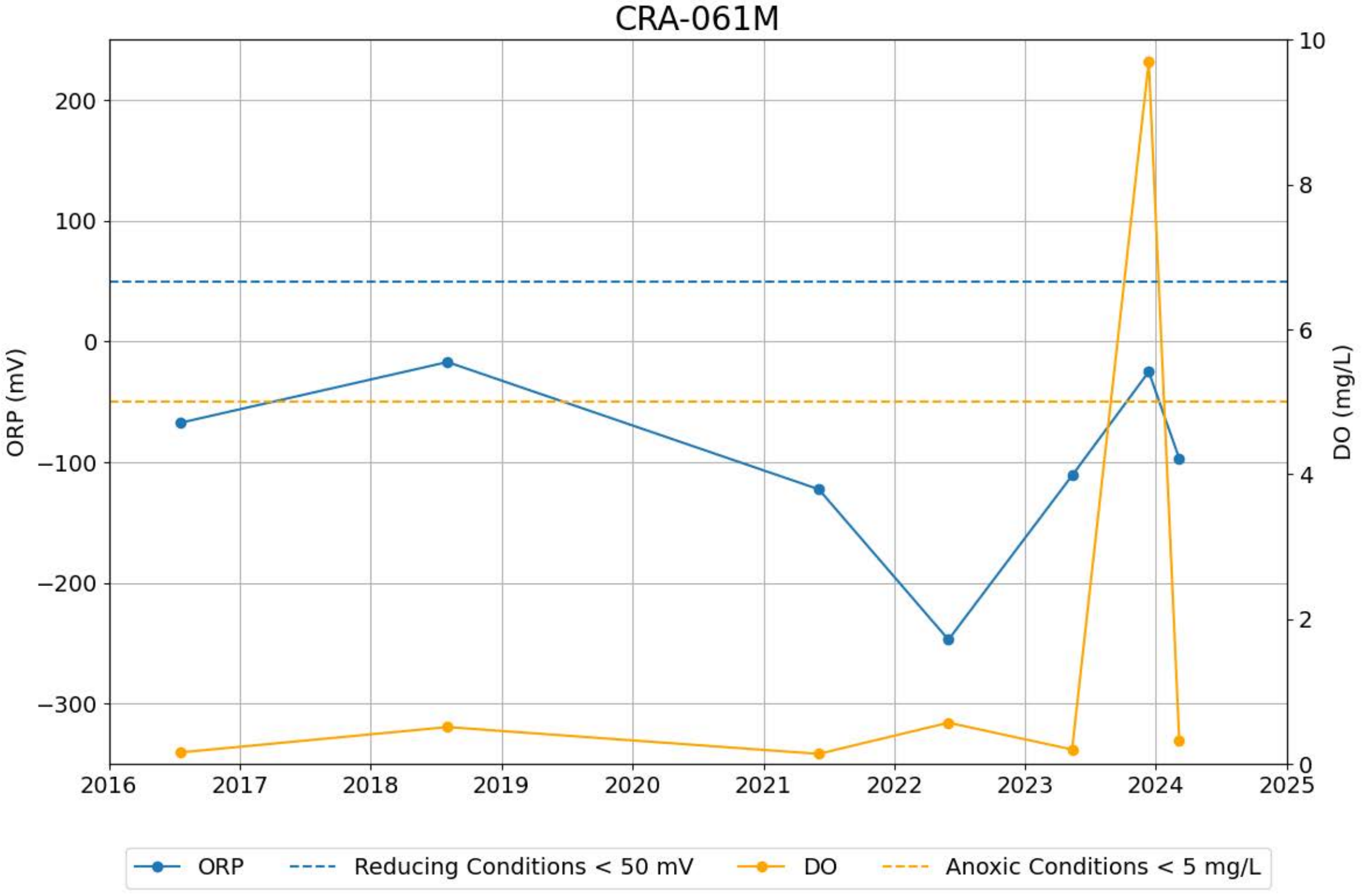
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method

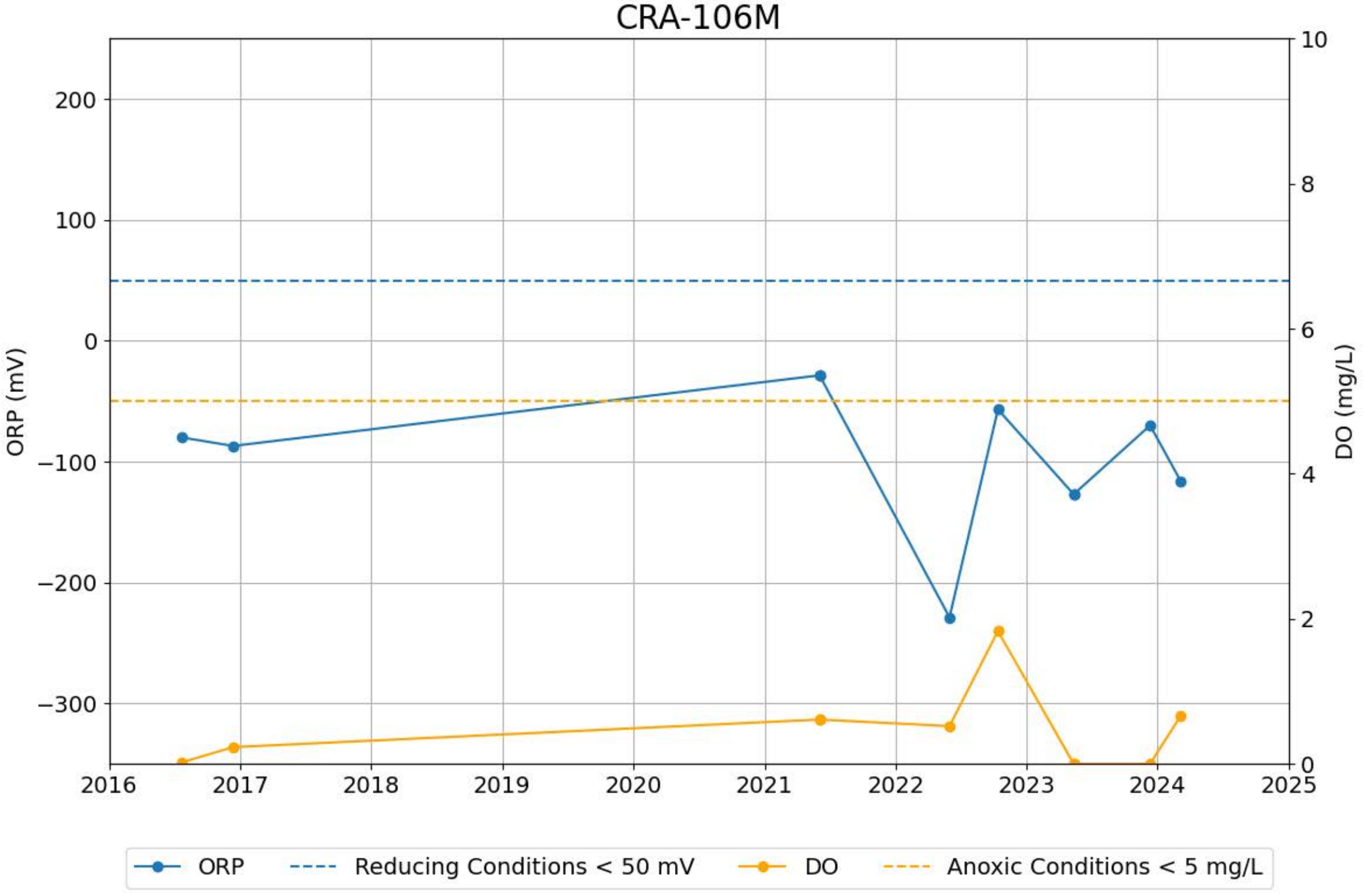


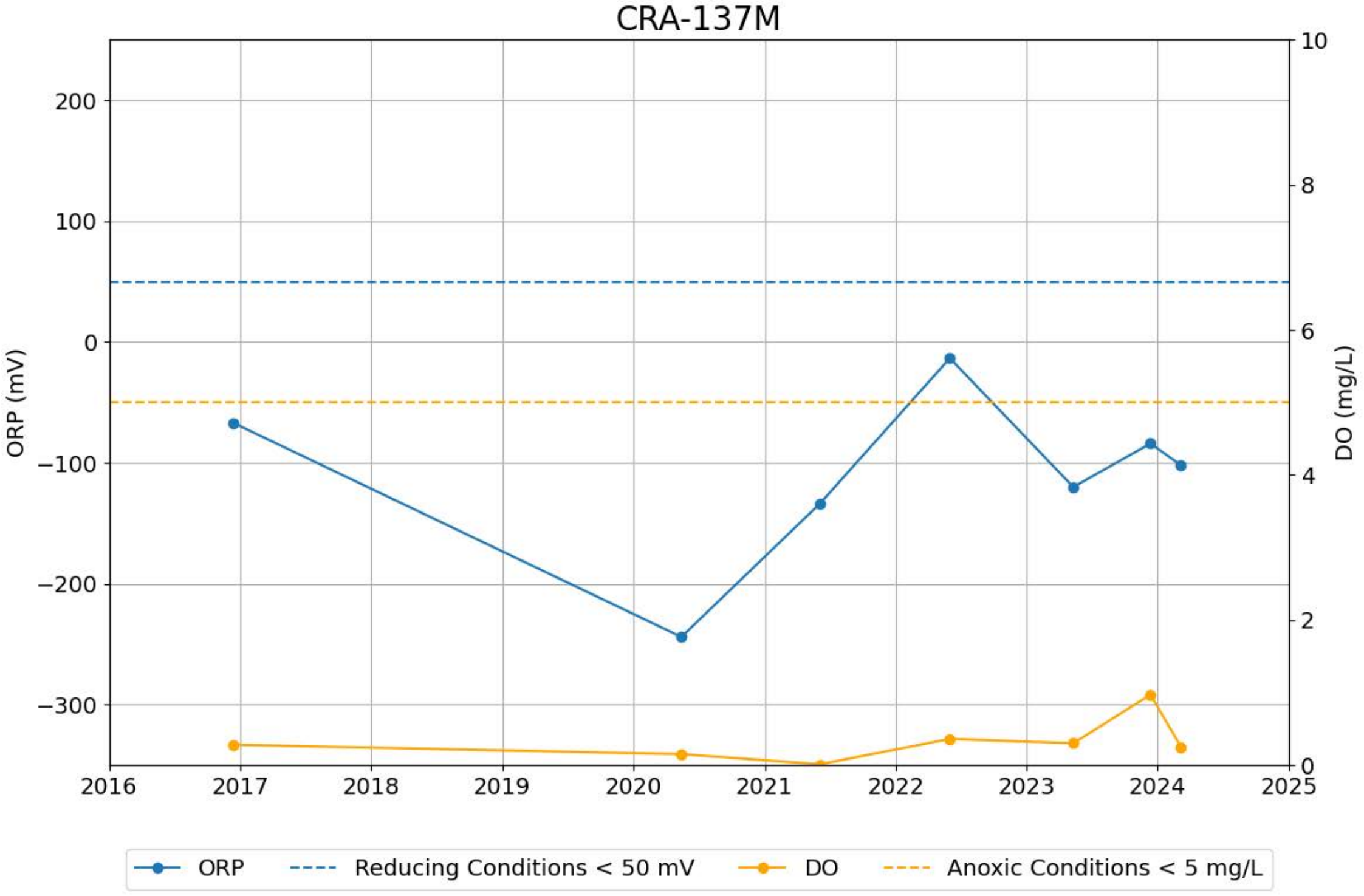
*Non-detect results are plotted as the minimum detection limit (MDL) concentration of analytical method

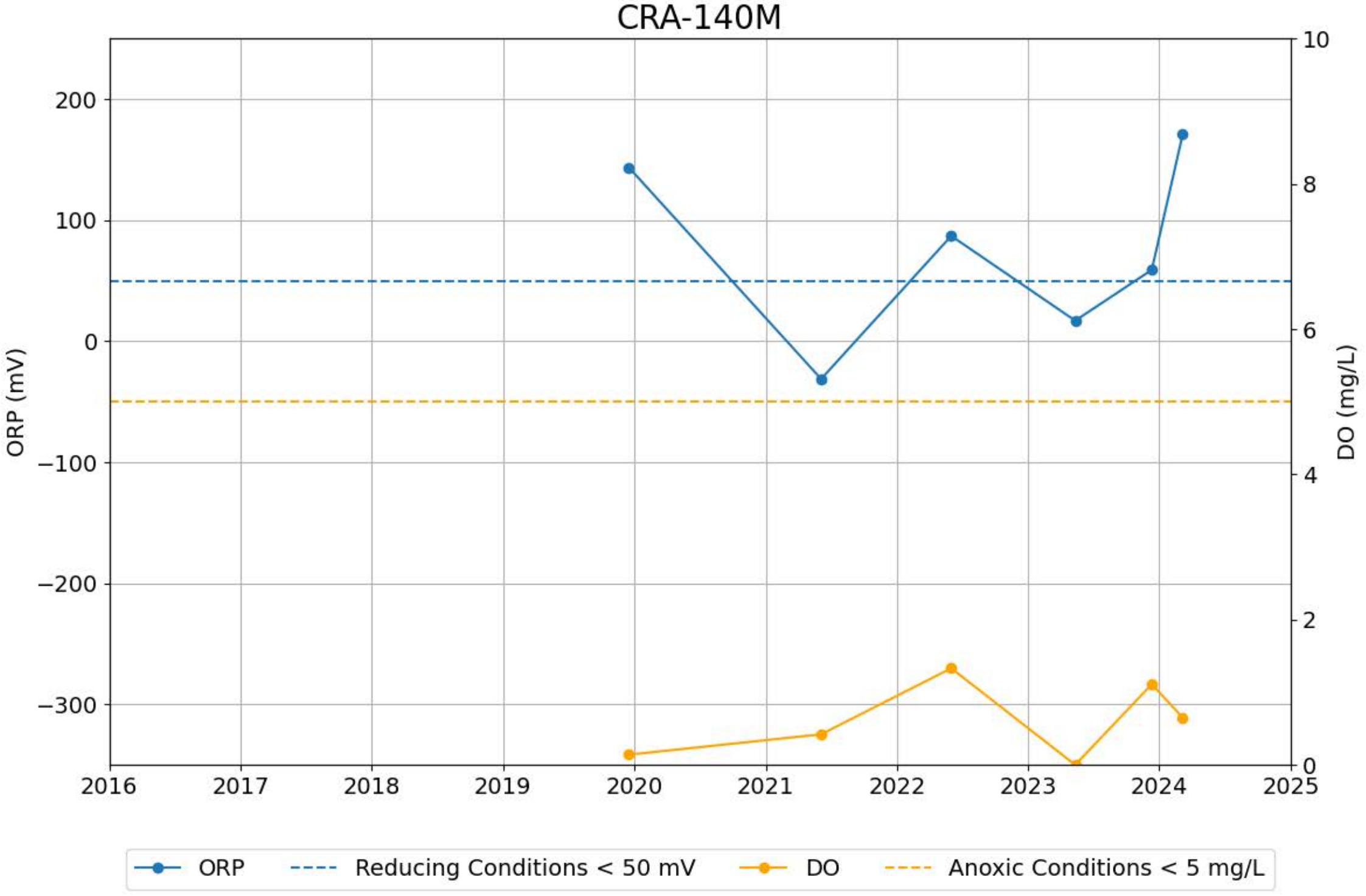
Appendix F

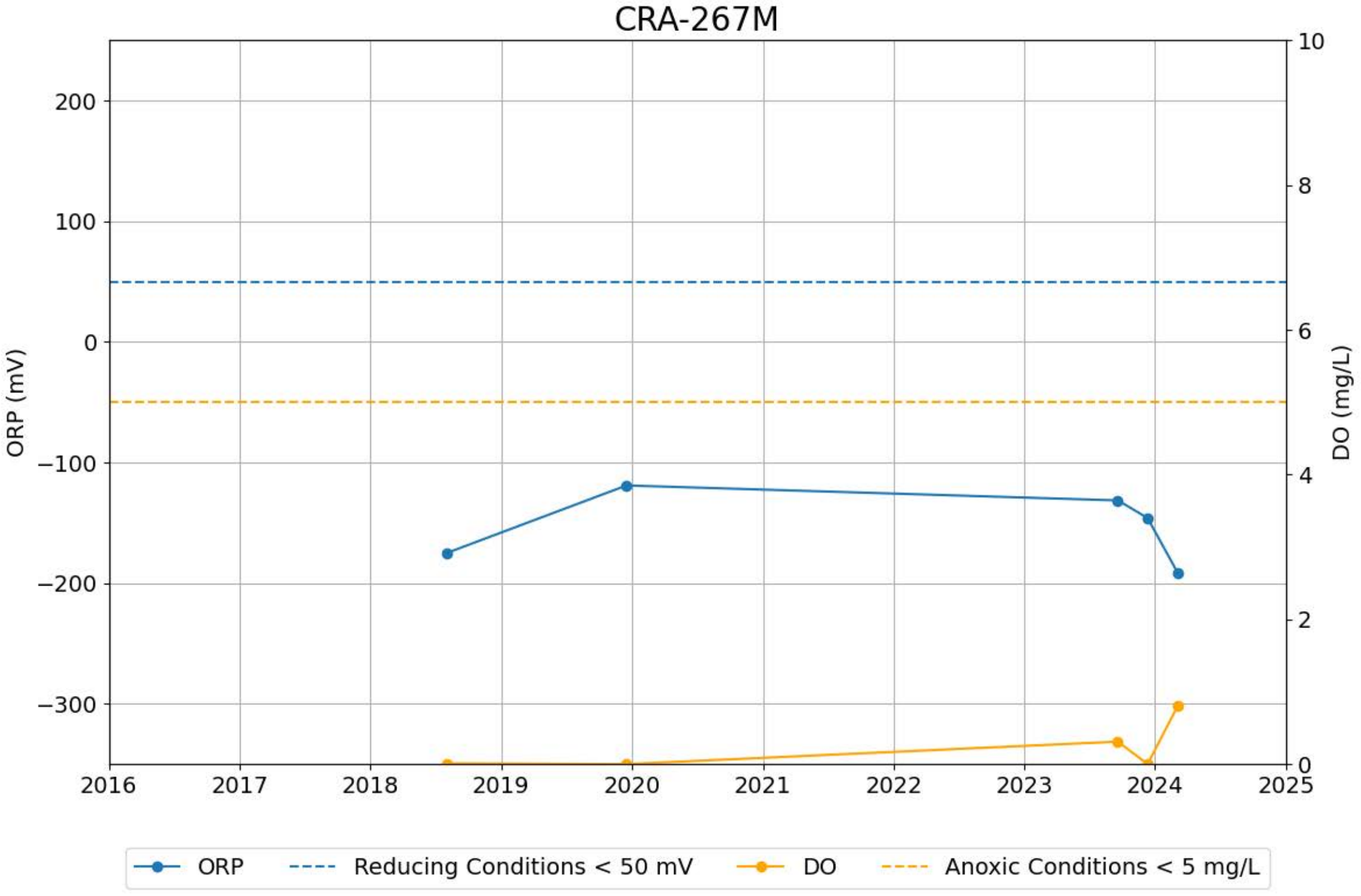
DO and ORP Measurements vs Time

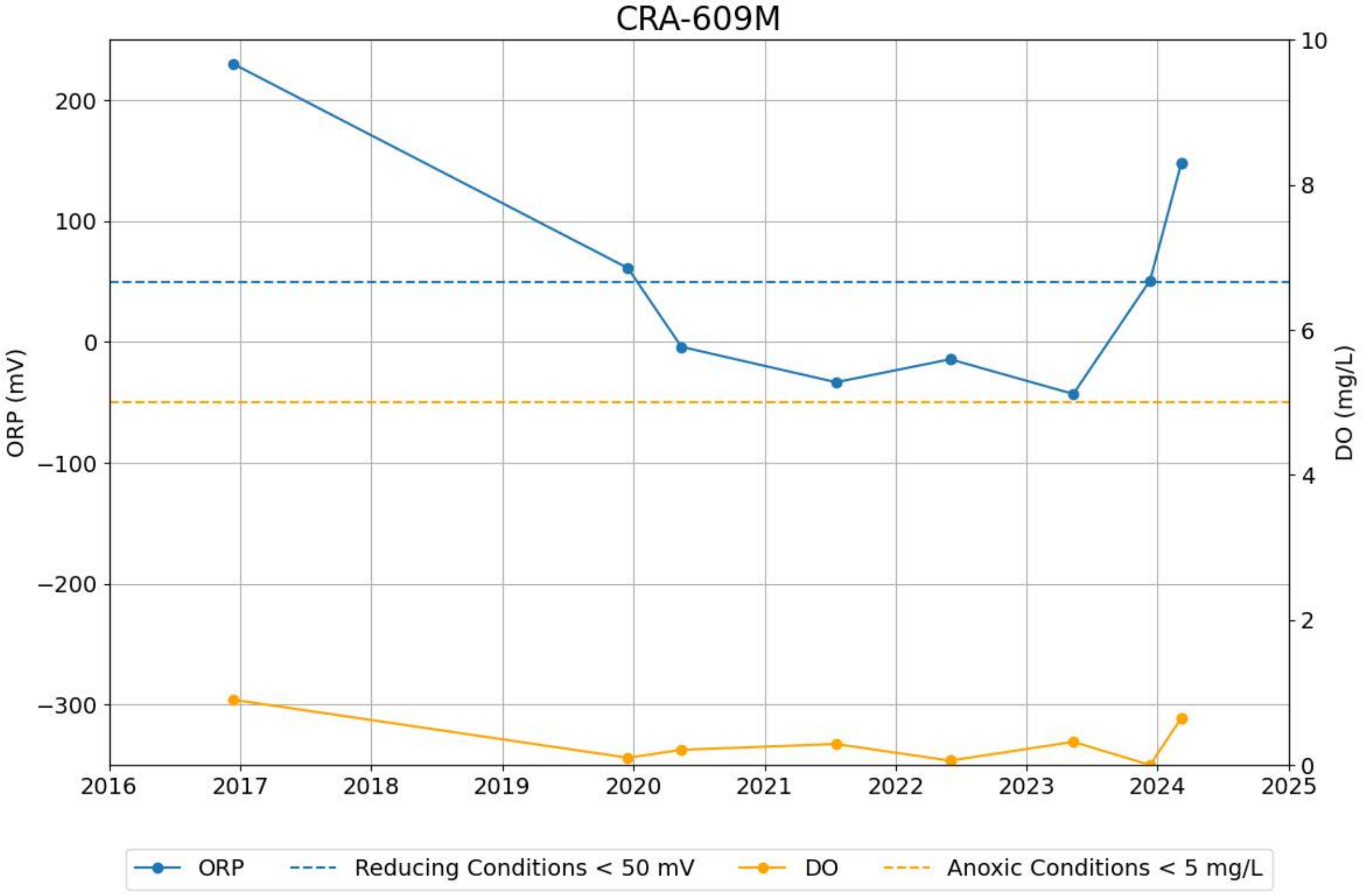

CRA-061M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

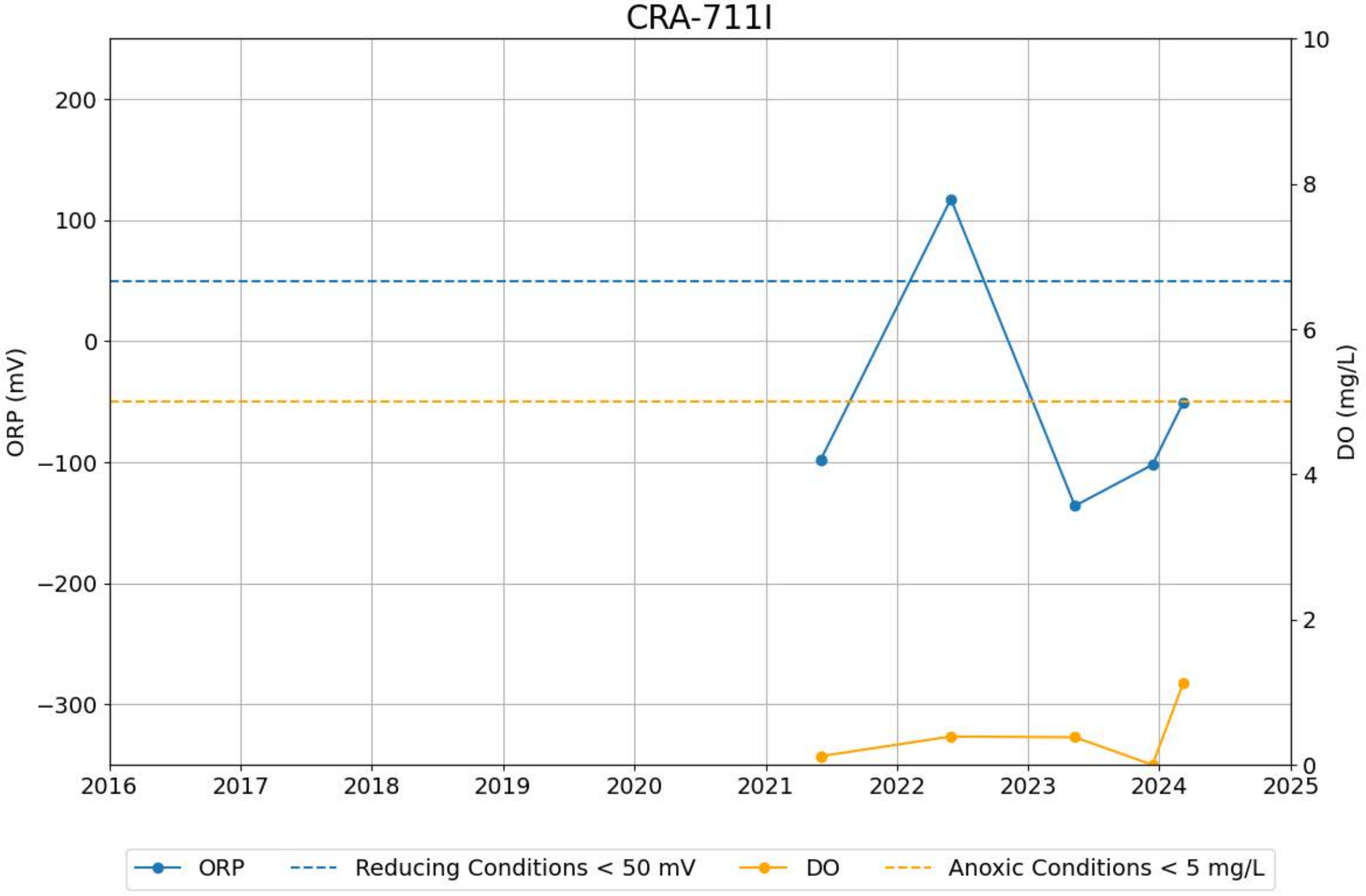

CRA-106M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

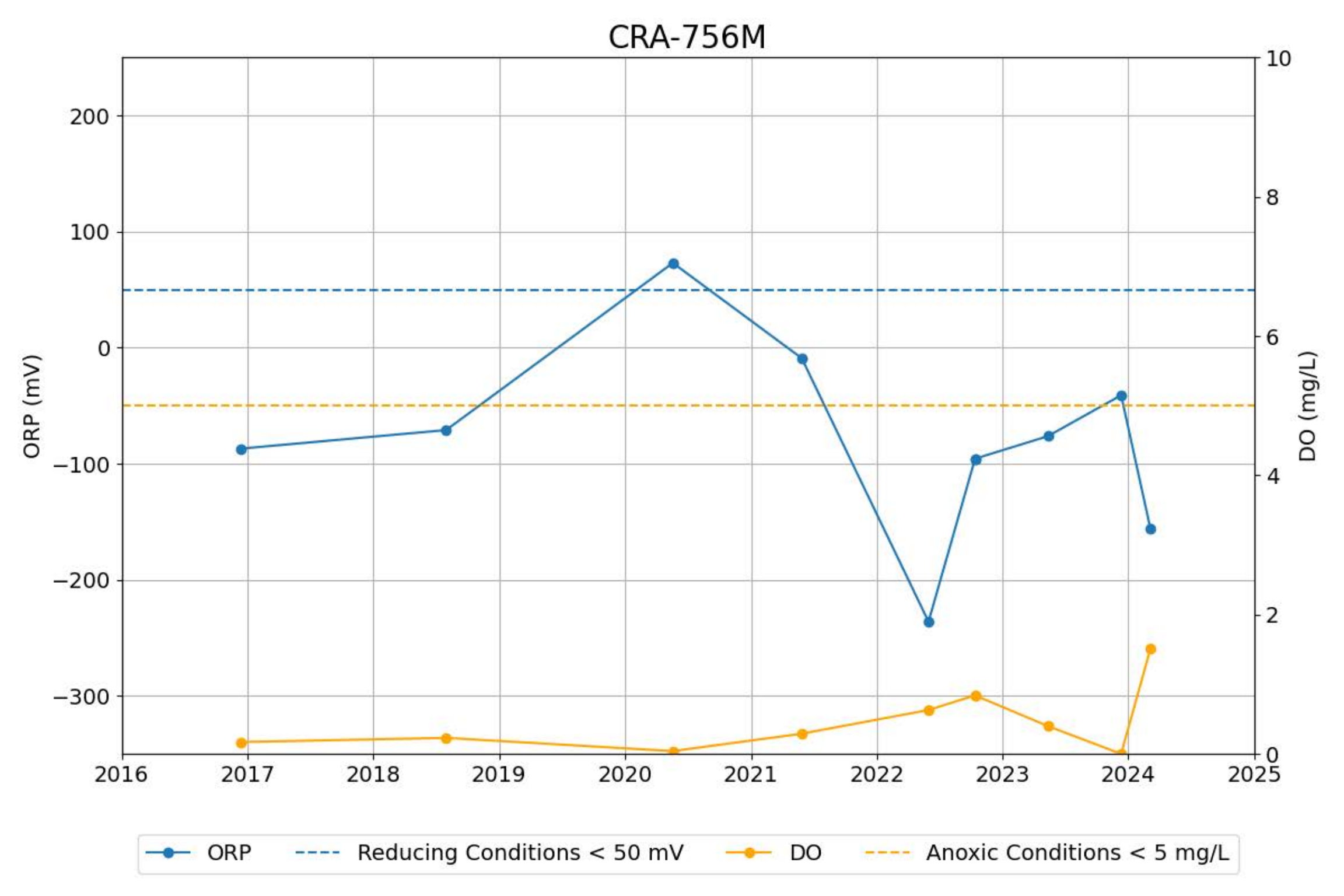

CRA-137M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

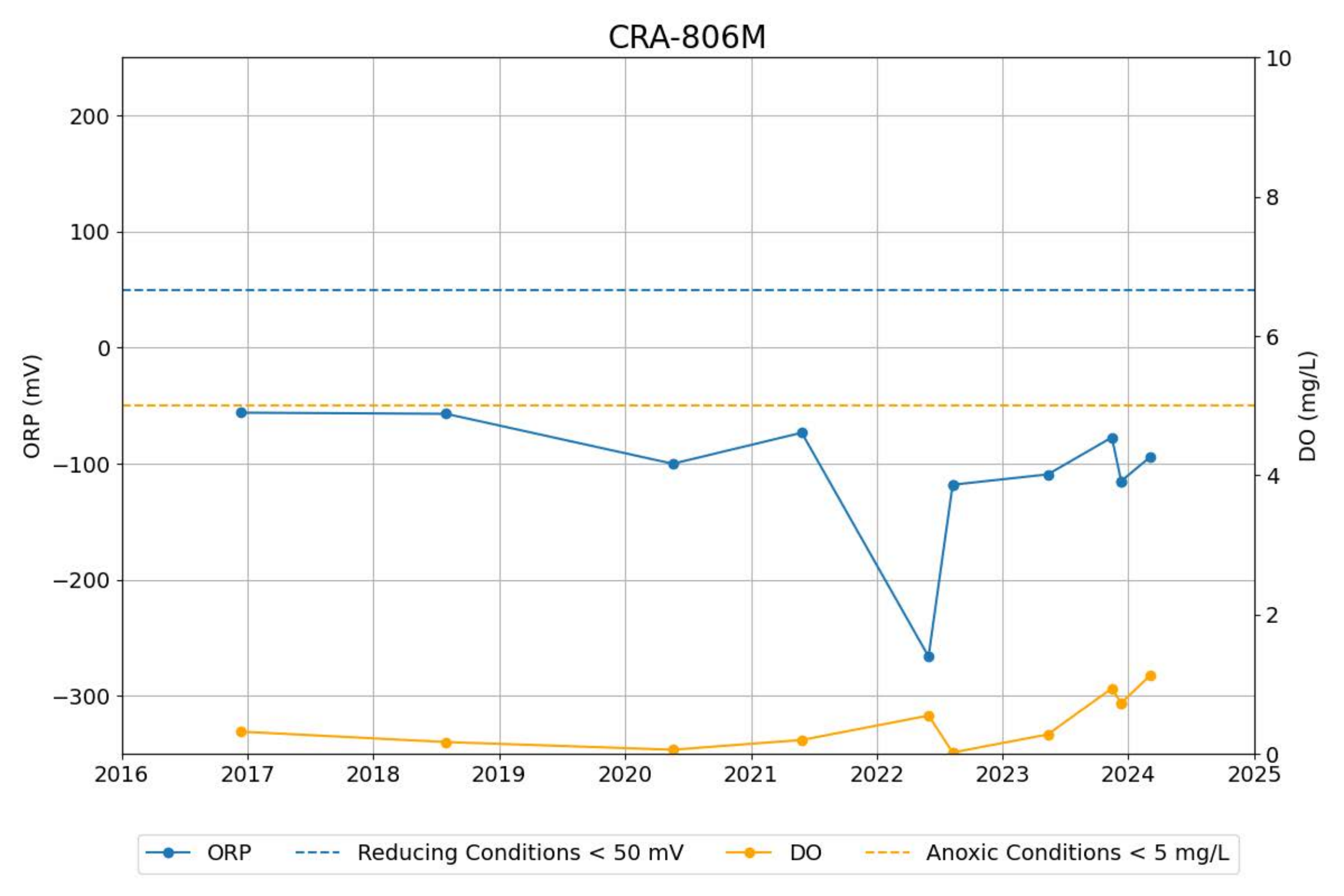

CRA-140M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

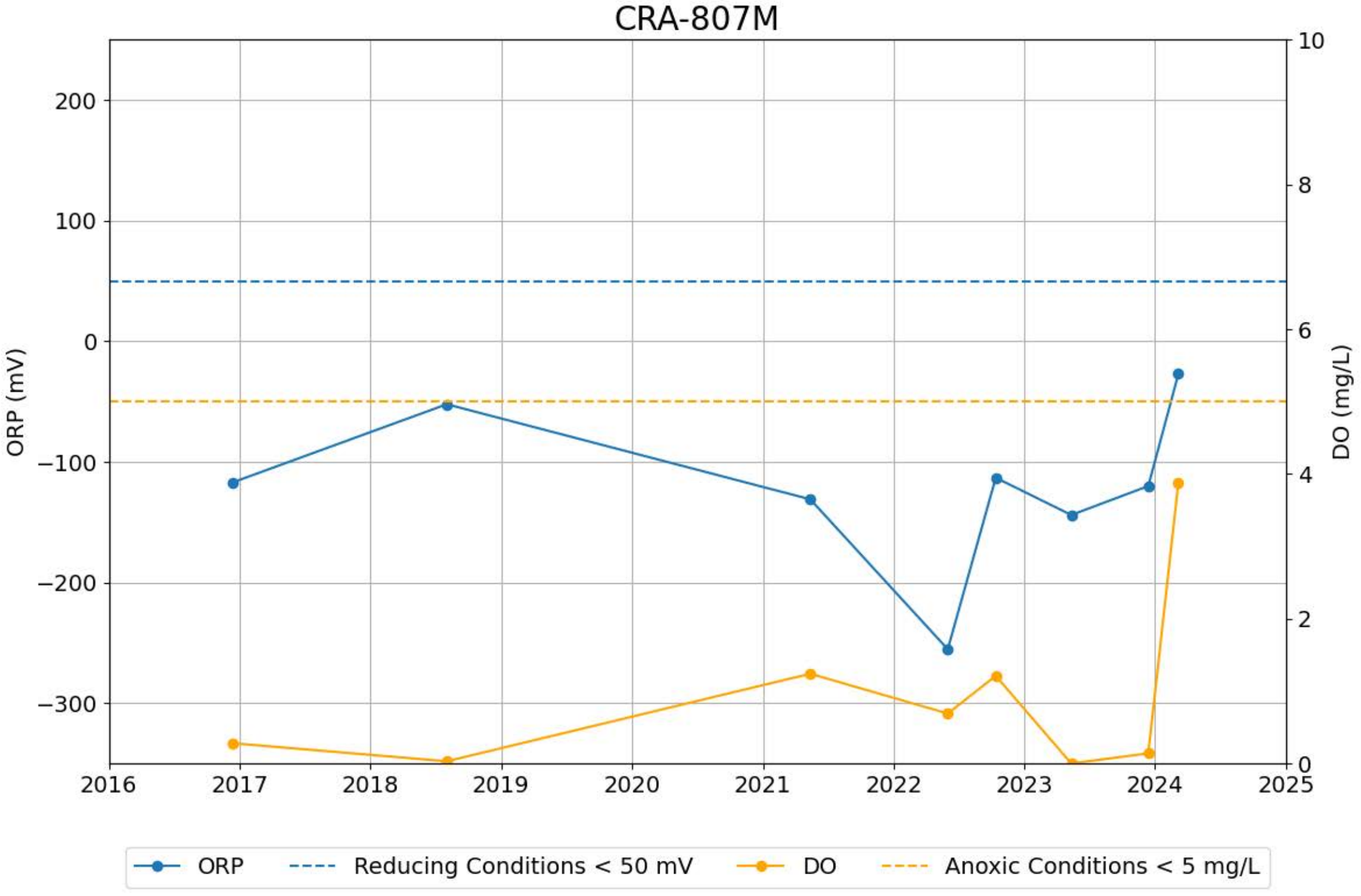

CRA-267M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

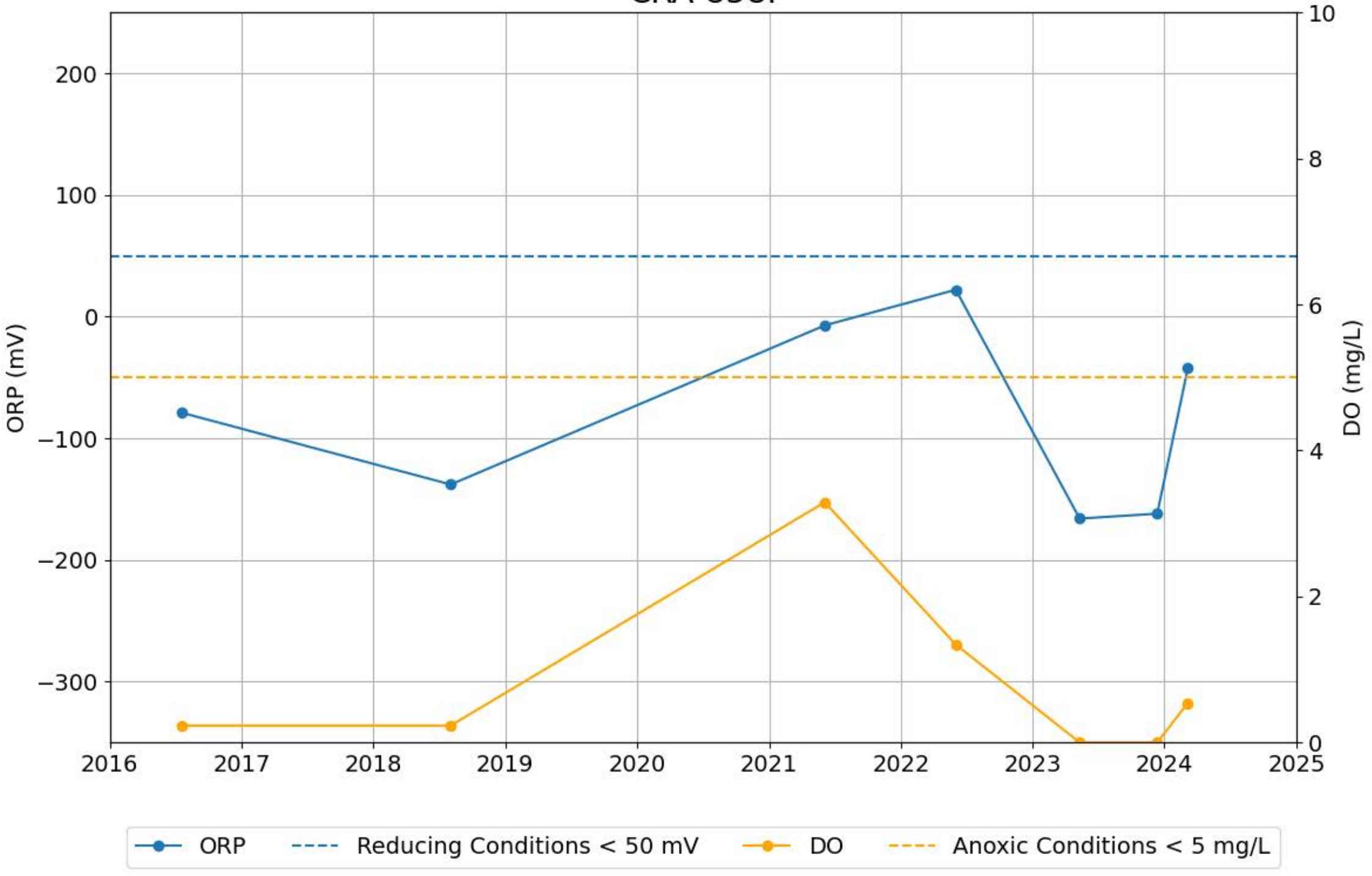

CRA-609M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

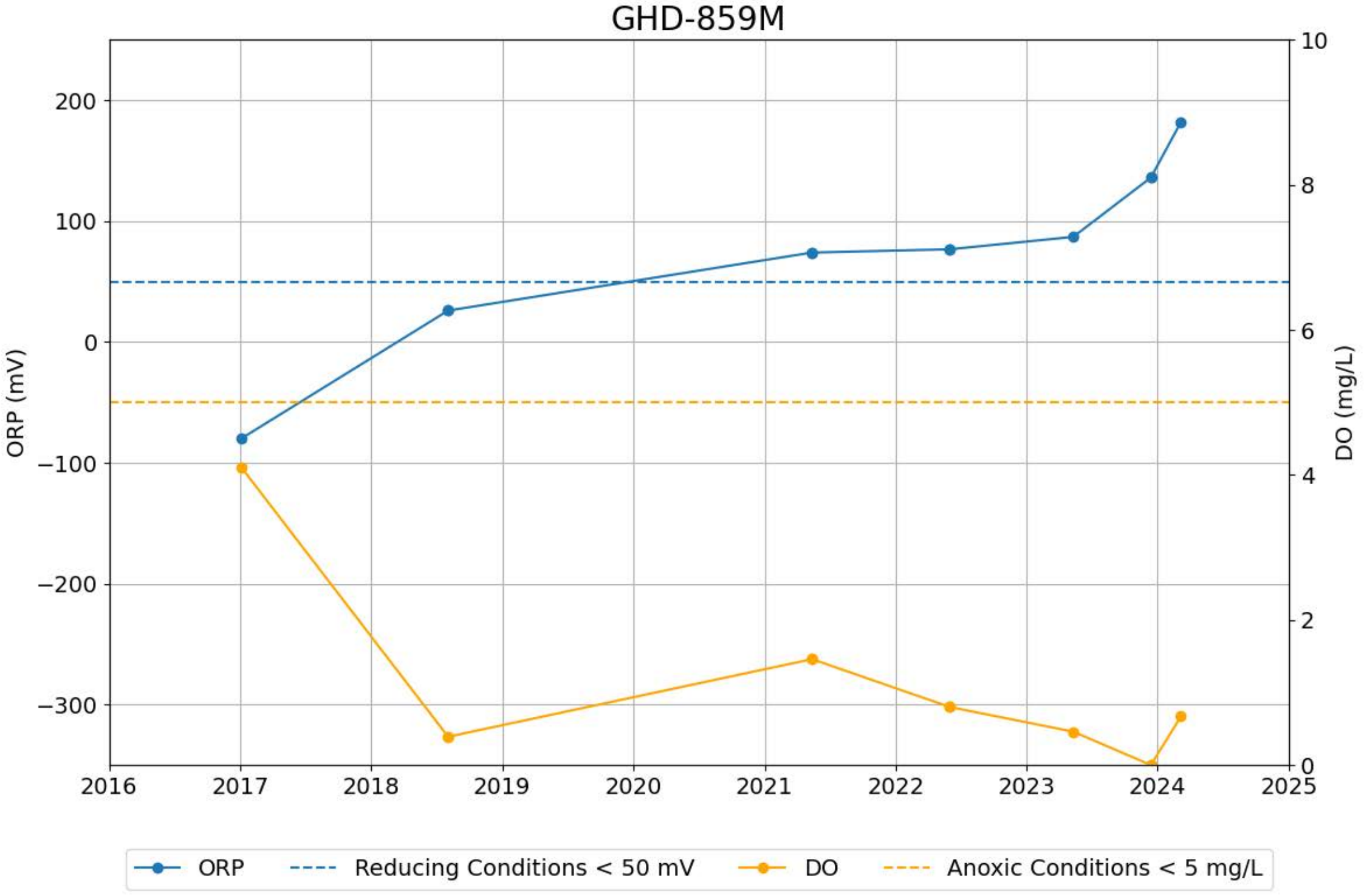

CRA-711I
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

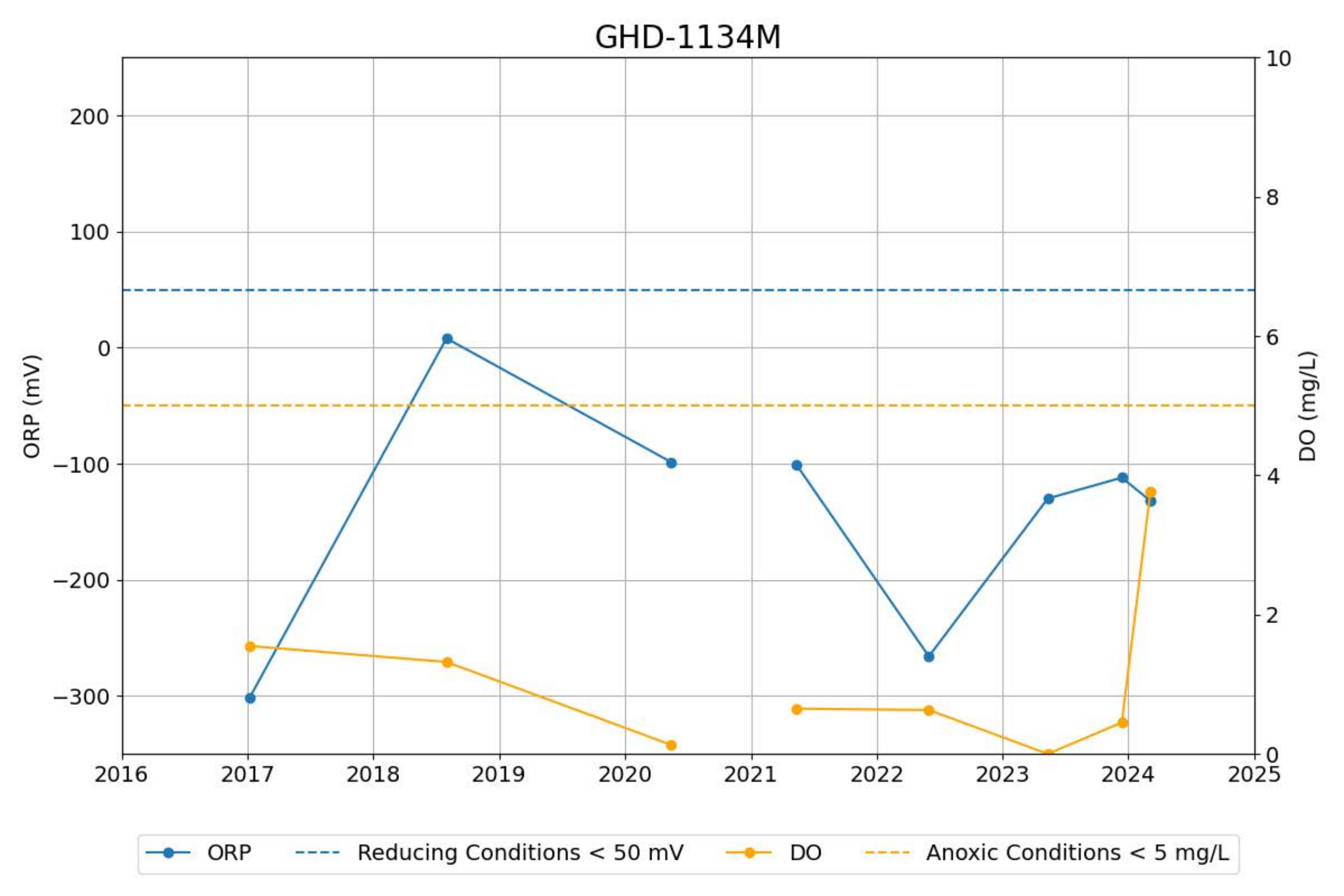

CRA-756M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

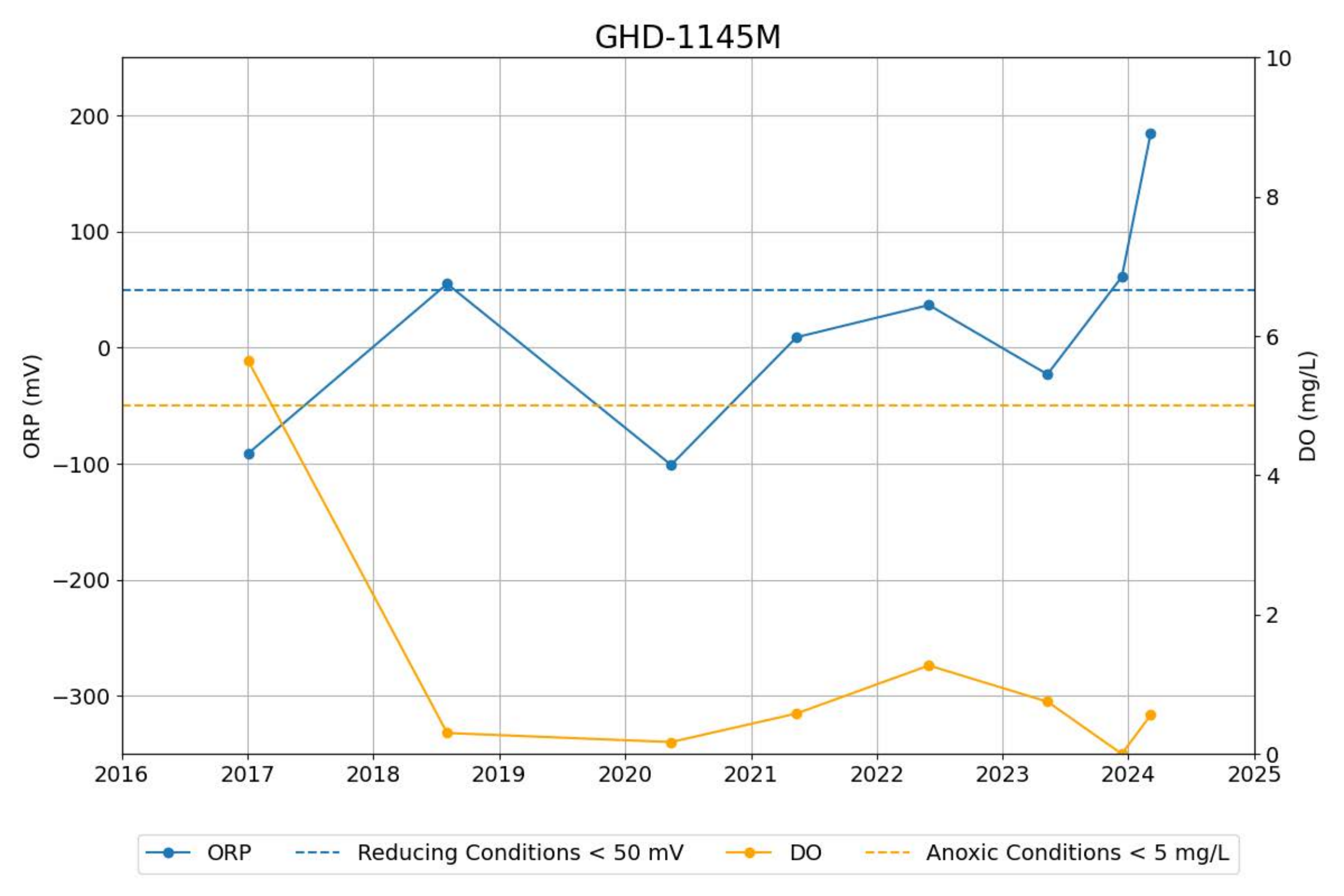

CRA-806M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

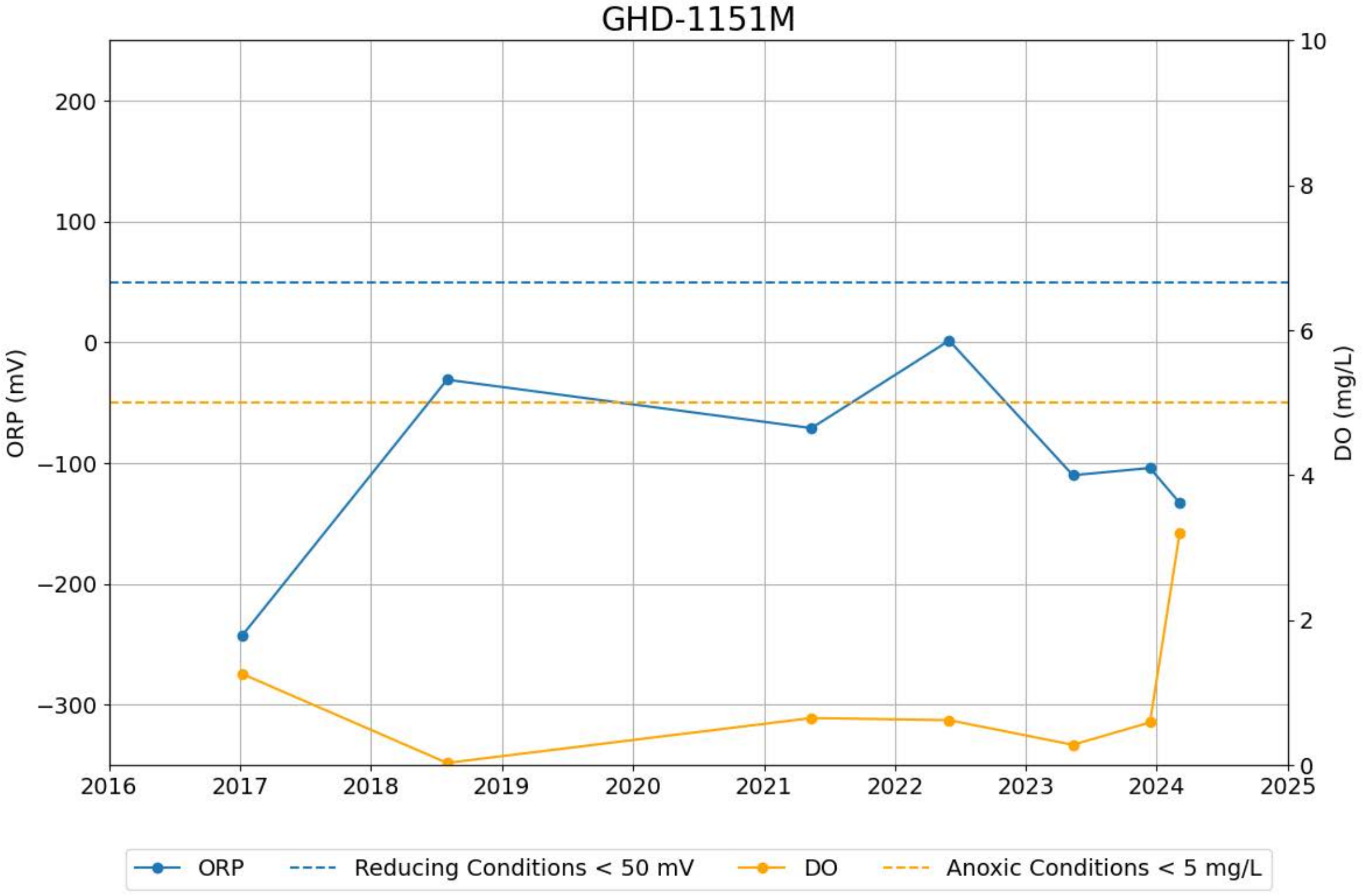

CRA-807M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

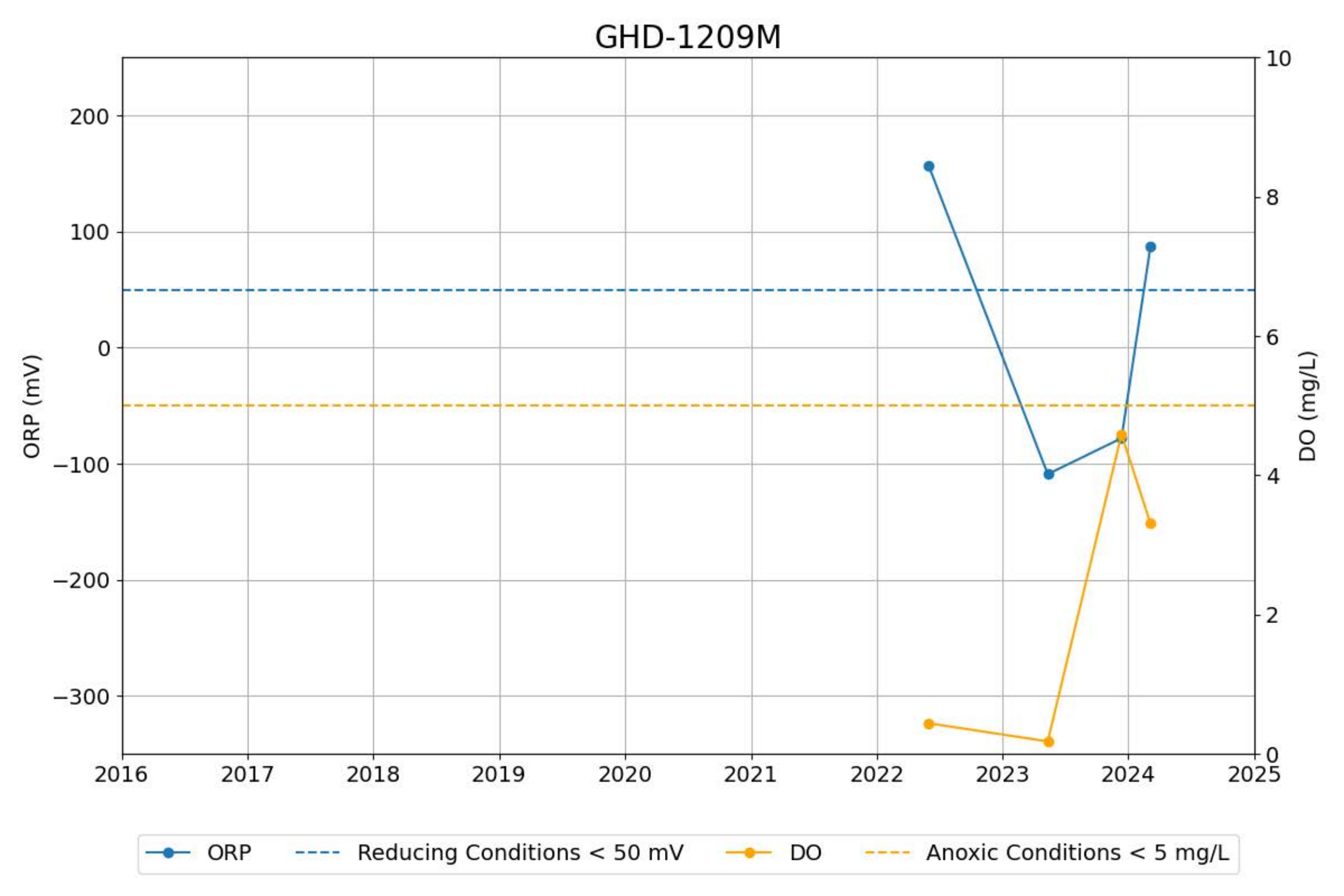

CRA-858I
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

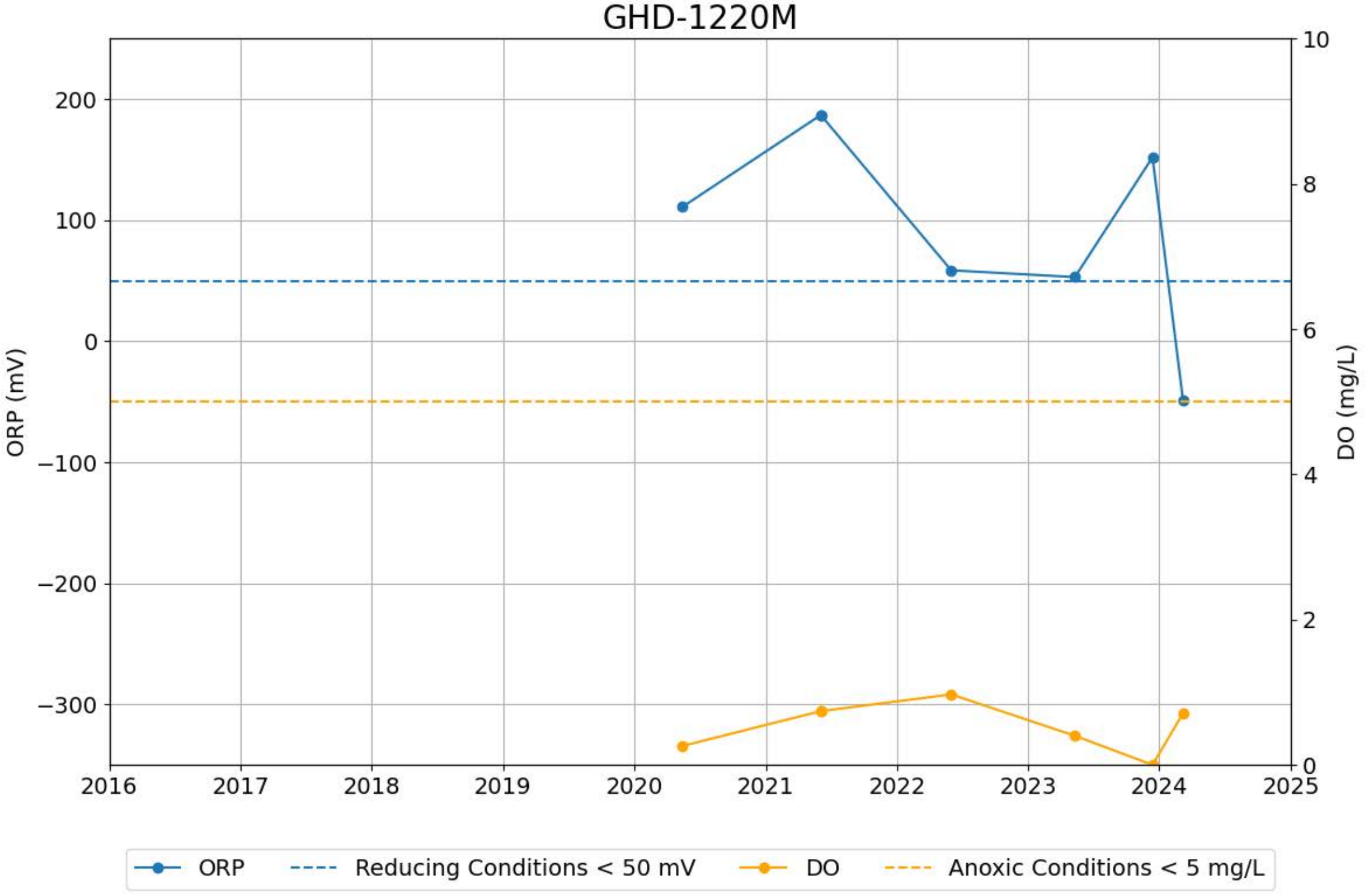

GHD-859M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

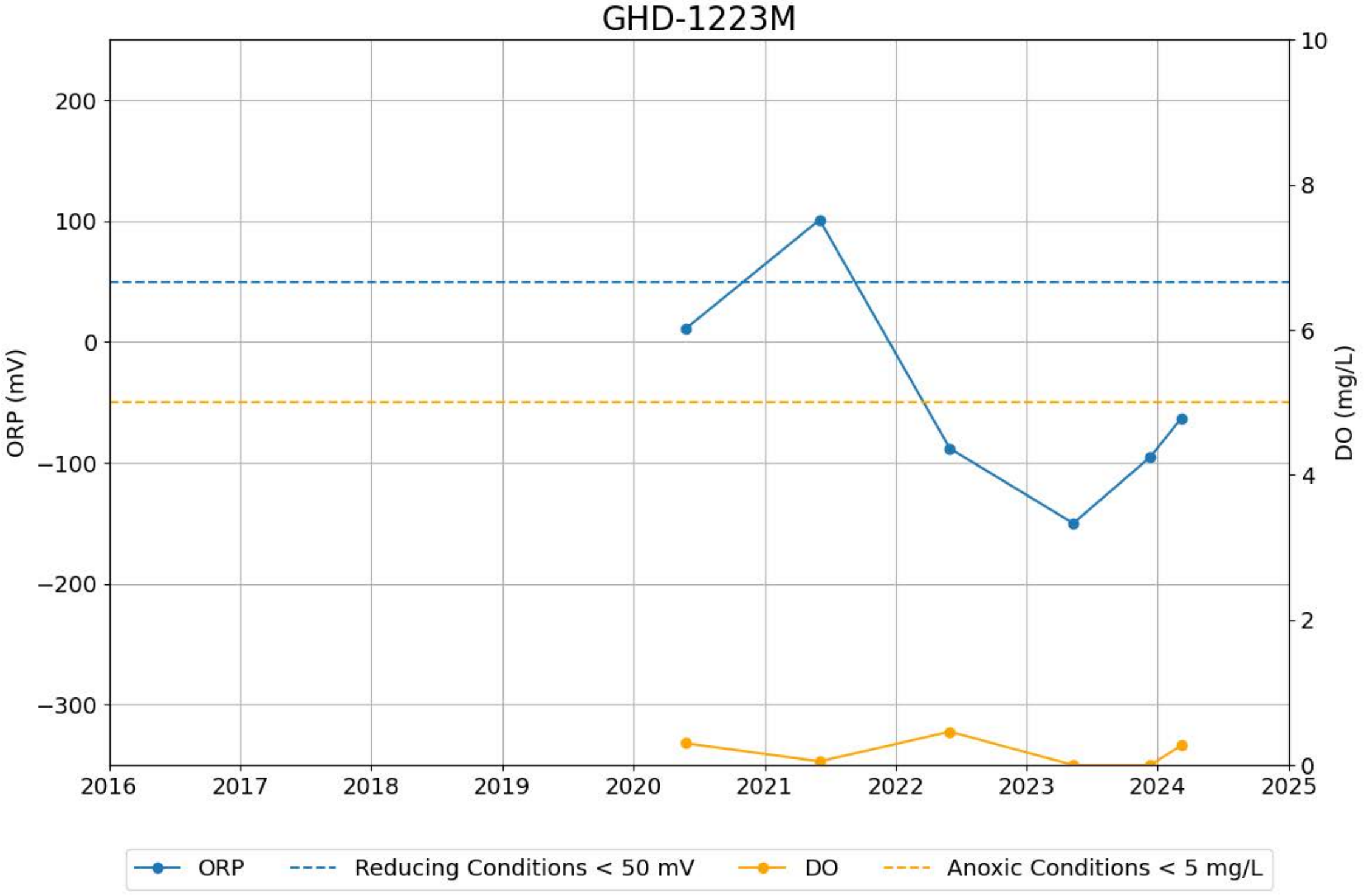

GHD-1134M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

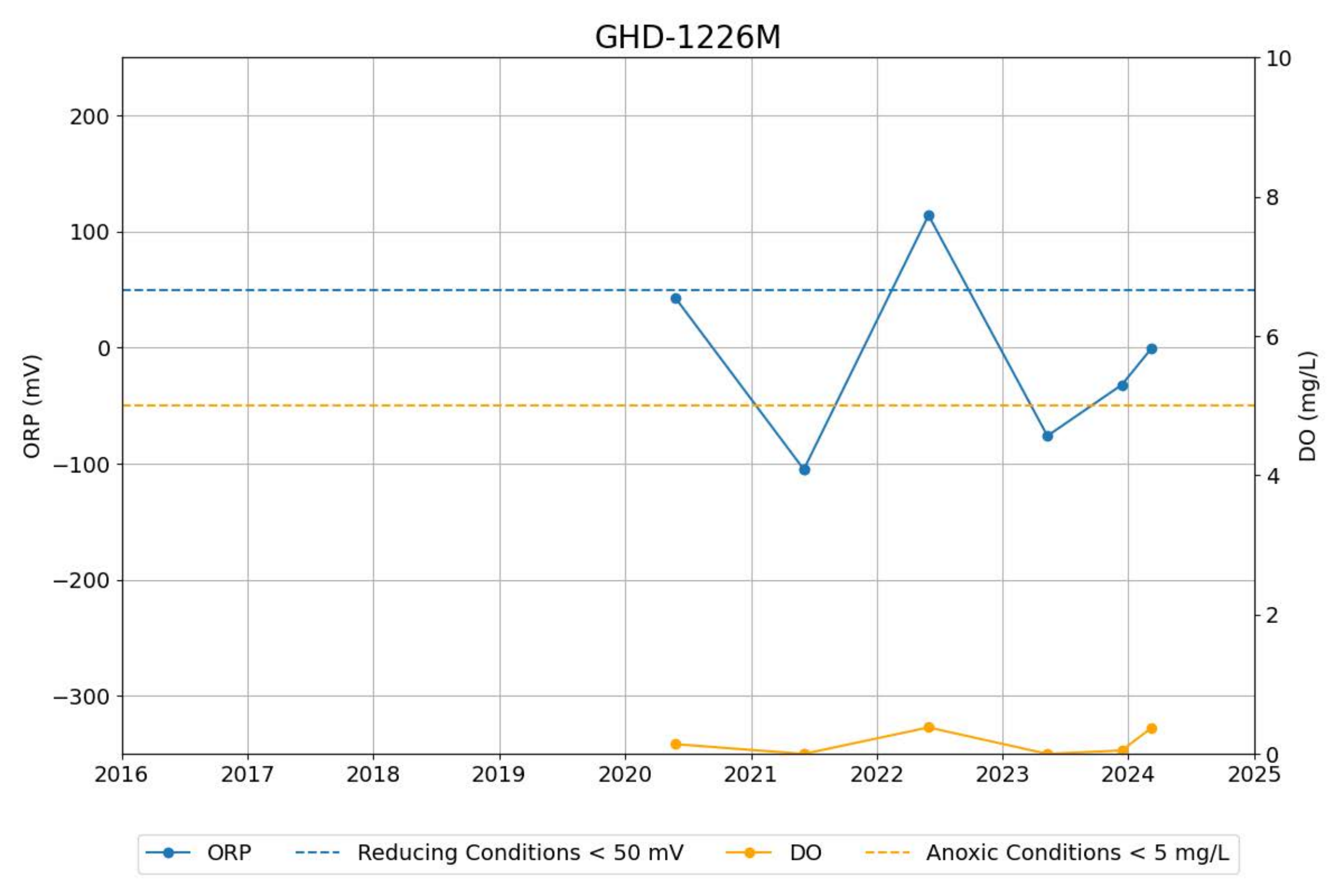

GHD-1145M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

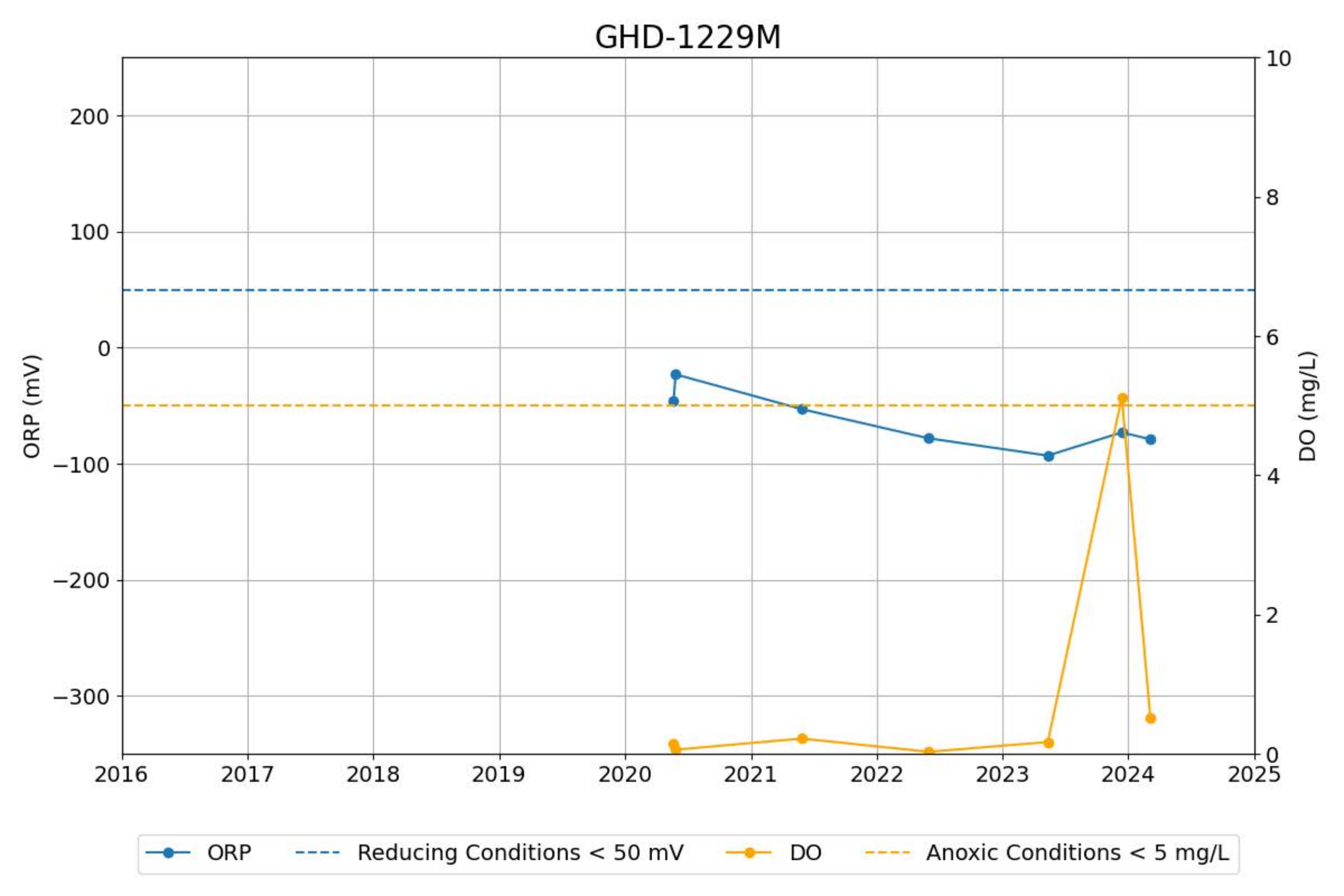

GHD-1151M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L

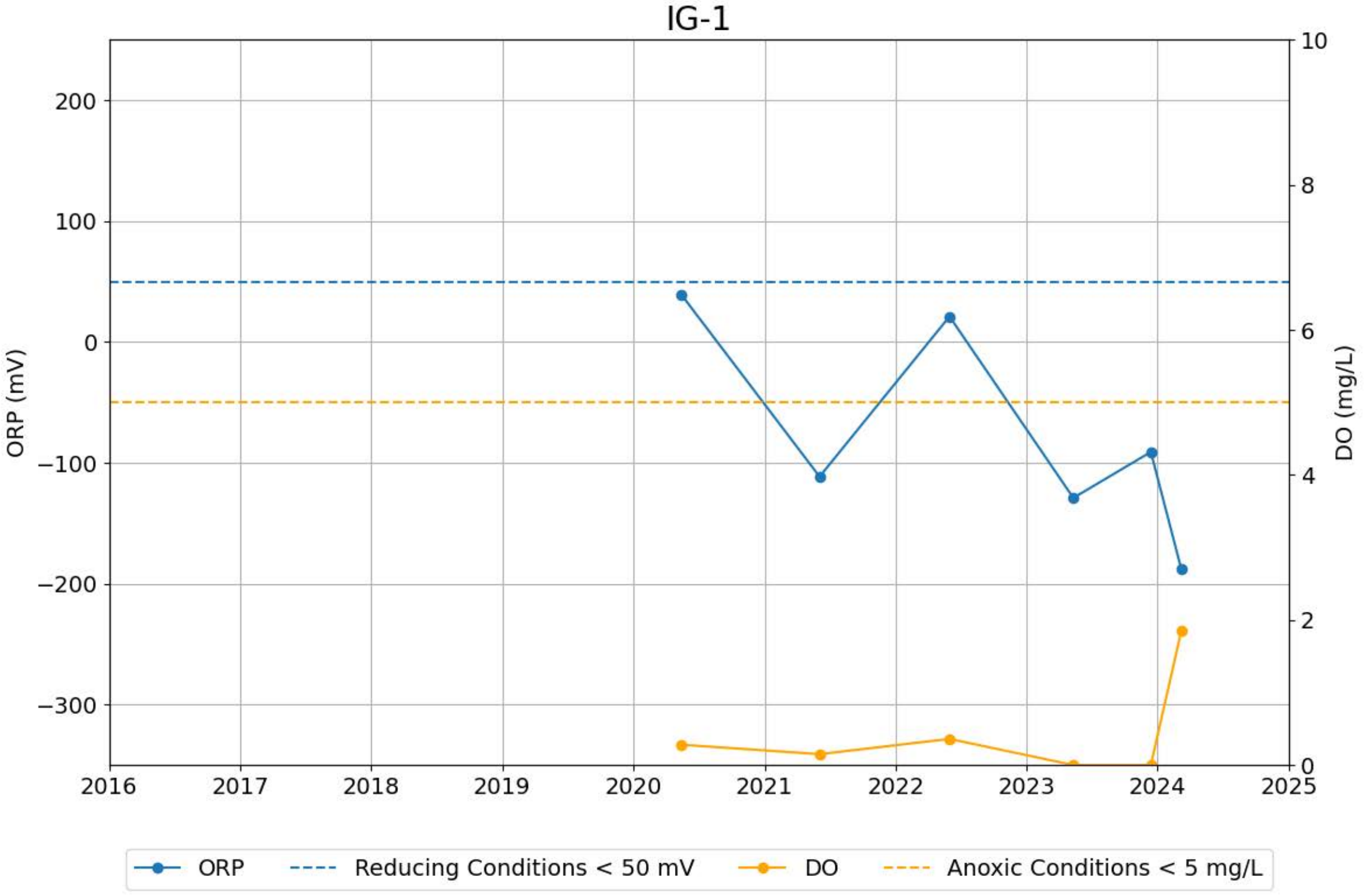

GHD-1209M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L


GHD-1220M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L


GHD-1223M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L


GHD-1226M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L


GHD-1229M
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L


IG-1
ORP (mV)
DO (mg/L)
200
100
0
−100
−200
−300
10
8
6
4
2
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
ORP
Reducing Conditions < 50 mV
DO
Anoxic Conditions < 5 mg/L