



PFAS Summary Report

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

RACER Trust

April 07, 2025

→ The Power of Commitment



Executive Summary

The purpose of this report is to document and summarize the environmental investigations of per- and polyfluoroalkyl substances (PFAS) conducted at the Former Willow Run Powertrain Plant in Ypsilanti, Michigan (Site). GHD has conducted environmental sampling programs to identify the presence and potential sources of PFAS found on Site and surrounding properties. The report presents analytical data and findings from these investigations and provides a conceptual site model (CSM) of PFAS in groundwater near the property boundary between the Michigan Flight Museum (MFM) and Wayne County Airport Authority (WCAA) properties.

The report includes a comprehensive history of PFAS investigation activities at the Site and environmental sampling programs to identify the potential source of PFAS contamination. The work was limited by the information available at the time of the investigations, and the conclusions are based on the conditions encountered and reviewed during the preparation of the report. The time period covered by this report spans from early 2018 to late 2024.

Key findings from the report include:

- Elevated levels of PFAS, particularly PFOA and PFOS, were detected in groundwater, soil, and storm sewer samples.
- Two hotspots with elevated PFAS concentrations were identified along the property boundary between MFM and WCAA properties, near the former tank farm/fueling canopy area and the east property boundary between MFM and WCAA properties.

The main conclusions drawn from the report are:

- Relevant potential migration pathways of PFAS contaminated groundwater at the Site are limited to the groundwater surface water interface (GSI).
- PFAS contamination in soil and groundwater is directly linked. The highest concentration of PFAS in soil is collocated with the highest concentration of PFAS in groundwater near the former tank farm and fueling canopy on WCAA property. PFAS soil concentrations in those areas are highest near the ground surface and decrease with depth.
- The active storm sewer network on MFM and American Center for Mobility (ACM) was designed to prevent groundwater infiltration. Former storm sewers on MFM and ACM properties were bulkheaded to prevent a GSI pathway for PFAS and other constituents.

Contents

1.	Introduction	1
1.1	Purpose of this report	1
2.	Background	1
2.1	Site History	1
2.2	Potential PFAS Use on Site	2
2.2.1	Industrial Processes & Uses	2
2.2.2	Fire Suppression	2
3.	Environmental Conditions	2
3.1	Hydrology/Geology	2
3.2	Groundwater Trends	3
3.3	Migration Pathways	3
4.	PFAS Environmental Investigation Results	4
4.1	PFAS Investigation Timeline	4
4.2	PFAS Analytical Methods	6
4.3	Groundwater	6
4.4	Soil	7
4.5	Storm Sewer	8
4.5.1	Historical On Site Storm Sewers	8
4.5.2	84-Inch & ESSD	8
4.5.3	WCAA Storm Sewers	9
4.6	LNAPL	10
5.	Conceptual Site Model	10
6.	References	11

Table index

Table 1	Analytical Results Summary – Groundwater
Table 2	Analytical Results Summary – French Drain Groundwater Collection System
Table 3	Analytical Results Summary – Soil
Table 4	Analytical Report Summary – Storm Sewer
Table 5	Analytical Results Summary – Surface Water
Table 6	Analytical Results Summary – LNAPL

Figure index

Figure 1	Property Boundaries and Site Areas
Figure 2	Former Tank Farm Area
Figure 3	Schematic Geologic Cross-Section
Figure 4	Storm Sewer Network
Figure 5	Groundwater Monitoring Locations Sampled for PFAS (Full Site)
Figure 6	Groundwater Monitoring Locations Sampled for PFAS (MFM/WCAA Property Boundary)
Figure 7	PFAS Analytical Result Heat Map
Figure 8	Soil Locations Sampled for PFAS
Figure 9	Radar plots of 84-inch outfall, MH-90, and MH-100
Figure 10	Surface Water Locations Sampled for PFAS

Appendices

Appendix 1	PFAS Results Stacked Column Charts
Appendix 2	PFAS Results Stacked Radar Plots

PFAS Acronyms

PFBA – Perfluorobutanoic Acid
PFBS – Perfluorobutanesulfonic Acid
PFPeA – Perfluoropentanoic Acid
PFPeS – Perfluoropentanesulfonic Acid
PFHxA – Perfluorohexanoic Acid
PFHxS – Perfluorohexanesulfonic Acid
PFHpA – Perfluoroheptanoic Acid
PFHpS – Perfluoroheptanesulfonic Acid
PFOA – Perfluorooctanoic Acid
PFOS – Perfluorooctanesulfonic Acid
PFNA – Perfluorononanoic Acid
PFNS – Perfluorononanesulfonic Acid
PFDA – Perfluorodecanoic Acid
PFDS – Perfluorodecanesulfonic Acid
4:2 FTS – 4:2 Fluorotelomersulfonic Acid
6:2 FTS – 6:2 Fluorotelomersulfonic Acid
8:2 FTS – 8:2 Fluorotelomersulfonic Acid
PFCA – Perfluorocarboxylic Acid
PFSA – Perfluorosulfonic Acid

1. Introduction

GHD Services Inc. (GHD) has prepared this Summary Report (Report) on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER) to provide a history of per- & polyfluoroalkyl substances (PFAS) investigation activities conducted at and around the Former Willow Run Powertrain Plant in Ypsilanti, Michigan. PFAS are organic chemical contaminants that are ubiquitous in the environment. There are increasing regulatory standards governing their classification as an environmental pollutant. There is also continued development of screening criteria for PFAS in drinking water, surface water, discharge limits, and environmental media clean-up standards. GHD has conducted environmental sampling programs to identify the presence and potential sources of PFAS found on Site and surrounding properties.

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

1.1 Purpose of this report

The purpose of this Report is to document and summarize the PFAS environmental investigations conducted at the Site and on neighboring properties, present analytical data and findings from PFAS environmental investigations, and provide a CSM of PFAS in groundwater near the property boundary between the MFM (formerly known as Yankee Air Museum) property and WCAA property east of the Site.

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 plane production plant, which operated between 1942 and 1945. In 1945 the University of Michigan (UofM) purchased the airport portion of the bomber plant, which is now The Willow Run Airport and is owned and operated by WCAA. The manufacturing portion of the plant, formerly known as the Willow Run Bomber Plant, was purchased by Kaiser-Fraizer in 1945, and subsequently sold to General Motors (GM) in 1957. Post war automobile manufacturing operations primarily included machining, cleaning, painting, and assembly of metal parts and products.

RACER was created in March 2011 by the US Bankruptcy Court to conduct environmental cleanup activities and position properties for redevelopment that were owned by GM prior to its 2009 bankruptcy. At the time of its formation, RACER was one of the largest holders of industrial property in the United States and was the largest environmental response and remediation trust in US history. Environmental cleanup activities completed by RACER are conducted with the approval and oversight of State and Federal environmental agencies.

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 known as MFM. In November 2016, the remaining property was sold to the Willow Run Arsenal of Democracy (WRAD) for development of the ACM, an autonomous vehicle testing facility. RACER retains responsibility for managing known below grade environmental impacts released from the former GM operations. Figure 1 depicts the current Site ownership boundaries and calls out regions of the Site discussed in this Report.

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.

2.2 Potential PFAS Use on Site

In 2018 RACER received and completed an industrial user PFAS screening and evaluation survey from Ypsilanti Community Utilities Authority (YCUA). YCUA requested industrial dischargers to complete the survey as an initial step to determine the potential presence of PFAS at elevated levels from industrial discharges to their facilities. RACER completed a review of historical industrial activities that were conducted at the Site over the years to determine if there were any historical potential sources of PFAS. No specific process was identified that utilized PFAS. Details from that review are discussed below. Initial sampling for potential PFAS impacts was conducted in 2018. As part of this review, GHD reviewed the known Site history for systems and operations that may have included the use of PFAS.

2.2.1 Industrial Processes & Uses

PFAS are used in a variety of manufacturing processes including metal plating, wire coating, and textile/leather treatment processes. Based on review of historical activities, no manufacturing processes that utilized PFAS were conducted at the Site.

2.2.2 Fire Suppression

Between 1942 and 1945, when the Site was used as a bomber manufacturing plant, PFAS containing aqueous film forming foams (AFFFs) were not available for fire suppression [ITRC, 2023]. The original Ford Motor Company blueprints of the Willow Run Bomber Plant show that a foam generation building was constructed near the historical underground tank farm and fueling canopy shown on Figure 2. The foam generation building is now known as the Red Brick Building. The fire suppression foam used in this time period may have been a protein-based foam product known as Aerofoam.

Beginning in the 1960's, PFAS containing AFFF was used in fire suppression systems and for firefighting and firefighting training activities. The fire suppression and foam generation systems in the Red Brick Building may have been retrofitted to utilize high performing AFFFs in this time period, but no records that confirm this have been located. It is GHD's and RACER's understanding that the Red Brick Building and underground tank farm portions of the Willow Run Bomber Plant were included in the property acquisition by UoFM in 1945 (current day airport operated by WCAA). Subsequently the Red Brick Building and tank farm area have never been owned or operated by GM and were not included in RACER's ownership of the Site.

The fire suppression system in the manufacturing portion of the Willow Run Bomber Plant acquired by Kaizer-Fraiser, and subsequently GM, was a water suppression system. No records of fire training exercises at the Site have been located. No records indicate a fire occurred at the Site during GM's ownership of the Site.

3. Environmental Conditions

3.1 Hydrology/Geology

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 3. The groundwater zones are as follows:

- Shallow Zone – Consists of fill and native soils, predominantly poorly graded “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. The intermediate zone 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. Therefore, it is not hydraulically connected to the shallow or intermediate zones within the Site boundaries.

3.2 Groundwater Trends

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. These subgrade structures interfaced with groundwater and required dewatering (pumping) activities (former steam tunnels). The historical storm sewer system previously captured infiltrating groundwater until abandonment. Groundwater elevations across the Site increased as a result of the redevelopment activities.

Prior to demolition of the Main Plant Building, there was generally an inward groundwater gradient within the Main Plant Building Footprint. This inward gradient, created through dewatering of underground structures, existed throughout the operational years of the former Willow Run Powertrain Plant. After demolition of the Main Plant Building the groundwater flow direction changed from generally inward toward the Main Plant Building to east/southeast toward the Willow Run Airport (WCAA property).

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 (at MH-102), and 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 was pumped through the force main and discharged to YCUA through a monitoring point/manhole (MH-102) to the sanitary sewer under an industrial pretreatment permit. The groundwater collection system was turned off in November 2022 to assess groundwater conditions without influences of the collection system. Power supply to the groundwater collection system was shutoff in August 2023. Currently, the groundwater collection system remains turned off with no current plans to operate it.

Following redevelopment activities, water levels were collected semi-annually in 2019 and 2020. The frequency was then reduced to annual level gauging from 2021 to 2023. Groundwater trends were generally consistent between 2021 and 2023, though water level elevations were elevated when the groundwater collection system was off.

3.3 Migration Pathways

Relevant migration pathways of PFAS contaminated groundwater at the Site are limited to GSI, consistent with previous pathway evaluations for the Site. Groundwater analytical data presented in this Report are screened against Michigan Department of Environment, Great Lakes, and Energy (EGLE) Part 201 criteria GSI criteria. Exposure pathways for the following EGLE Part 201 criteria: Residential and Non-Residential Drinking Water (RDW, NRDW), Residential and Non-Residential Volatilization to Indoor Air Pathway (RVIAP, NRVIAP), Water Solubility (WS), and Flammability Explosivity Screening Levels (FESL) are incomplete for the following reasons:

- RDW/NRDW: On Site deed restrictions limit the use of groundwater to non-residential and prohibit the 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.
- WS: Analytical data collected to date shows PFAS concentrations in on Site groundwater are several orders of magnitude below WS criteria while groundwater samples from off Site show exceedances of WS criteria. This data suggests that PFAS contamination originated from a historical release off Site, therefore PFAS concentrations on Site will not increase to the point of exceeding WS criteria.

- RVIAP/NRVIAP/FESL: Currently, EGLE has not defined Part 201 RVIAP, NRVIAP, or FESL criteria for PFAS compounds.

Groundwater on Site currently flows south, southeast across the east property boundary with WCAA. The nearest receiving surface water is Tyler Dam Drain, located on the southern boundary of the property. Tyler Dam Drain is not directly downgradient of the region with PFAS contaminated groundwater. Tyler Dam Drain is a quarter mile away from the area with PFAS contaminated groundwater. Groundwater between the east property boundary and Tyler Dam Drain shows no PFAS impacts, therefore direct interface between PFAS contaminated groundwater and Tyler Dam Drain is unlikely.

An active storm sewer network managing storm water on MFM and ACM property does present a possible migration pathway of PFAS constituents in groundwater to Tyler Dam Drain. The storm sewer network consists of the East Side Storm Drain (ESSD), a sealed stormwater sewer, constructed near the east property boundary on MFM property, and a section of the historical 84-inch storm sewer, located on WCAA property. Storm water from portions of the MFM and ACM properties flow through the ESSD and then through the historical 84-inch sewer, which discharges to Tyler Dam Drain. The storm sewer network is presented on Figure 4. Groundwater infiltration to the storm sewer network provides a potential conduit for PFAS constituents in groundwater to interface at the discharge point in Tyler Dam Drain.

4. PFAS Environmental Investigation Results

PFAS investigations at the Site were initiated during a groundwater characterization study in 2018 for the groundwater collection system constructed in 2017, which discharged to YCUA. At the time of the groundwater collection system construction, a groundwater treatment system meant to treat oils, phosphorus, and volatile organic compounds (VOCs) was under design development. At the request of YCUA, GHD analyzed groundwater influent and collection system discharge for PFAS. Analytical results from the 2018 groundwater influent investigation showed elevated levels of PFAS constituents, most notably legacy PFAS compounds PFOA and PFOS. Shortly thereafter, in a letter dated October 3, 2018, YCUA informed RACER that PFOS was detected above EGLE Rule 57 water quality values (WQV) in the on Site groundwater collection system discharge.

Following detections of PFAS in the groundwater on Site, GHD on behalf of RACER began environmental investigations to determine the source and extent of PFAS contamination in the groundwater collection system discharge.

The following sections present a timeline of PFAS investigations and a discussion of analytical results organized by environmental matrix.

4.1 PFAS Investigation Timeline

The following section presents a timeline of PFAS investigations conducted. The timeline is meant to provide a high-level narrative of PFAS investigations and activities. Results of PFAS investigations are presented in Sections 4.3 through 4.6.

2018

- *March 2018* – Groundwater collection system discharge sampled including six upgradient groundwater monitoring locations.
- *June 2018* – Groundwater from the Red Brick Building area excavation sampled for PFAS. Excavation activities for utility removal were completed prior to the PCE Area excavation.
- *July 2018* – Soil from PCE Area excavation collected for waste characterization and analyzed for PFAS. Historical storm sewer network sampled at two manhole locations (P-1497 and P-879).

- *August 2018* – Groundwater samples from the groundwater collection system were collected for PFAS total oxidizable precursor (TOP) analysis.
- *October 2018* – YCUA notified RACER of elevated PFOS detections in groundwater collection system discharge. YCUA required reduction and/or elimination of PFOA and PFOS, quarterly sampling, and RACER progress reports.
- *November 2018* – ACM sampled storm water discharge from first flush basin C (FFB-C).

2019

- *Fall 2019* – WCAA required to sample the storm water discharge from WCAA storm sewer. WCAA sampled 84-inch outfall in error – WCAA notified RACER that PFOS detected above EGLE Part 57 WQV in 84-inch outfall sample.
- *November 2019* – Paired shallow/intermediate groundwater monitoring locations installed in south triangle area of the Site. These wells were installed to provide additional coverage of the area, investigate PFAS near previous WWTP, and replace previous wells abandoned during redevelopment. Soils were sampled and analyzed for PFAS in 2-foot intervals for intermediate groundwater wells. Twelve groundwater monitoring wells analyzed for PFAS in the south triangle area and around WWTP areas.
- *December 2019* – Samples collected from 84-inch storm sewer outfall and MH-80 of the ESSD.

2020

- *January 2020* – Nine storm water samples collected along 84-inch sewer and ESSD.
- *March 2020* – Additional sampling of 84-inch and ESSD, more locations further upstream in ESSD.
- *Summer 2020* – Television of ESSD showed Roof Drain H was leaking, allowing PFAS contaminated groundwater to infiltrate ESSD.
- *December 2020* – NPDES permit resubmitted for potential collection system discharge.

2021

- *January 2021* – PFAS data from environmental investigations submitted to EGLE.
- *Fall 2021* – PFAS data gaps identified, and environmental sampling plan developed to identify source and extent of PFAS constituents in groundwater and soil.

2022

- *May 2022* – Ten groundwater monitoring wells sampled along MFM east property boundary and south property boundary near former tank farm area.
- *June 2022* – Five groundwater monitoring wells sampled near historical fueling canopy/underground tank farm and MFM east property boundary.
- *August 2022* – Ten groundwater monitoring wells sampled on MFM property; locations were dispersed across property not just focused along storm sewers / property lines as in previous sampling events.
- *October 2022* – Implemented broader PFAS soil and groundwater sampling on MFM property and along property boundaries with WCAA property. Ten new groundwater wells installed on WCAA property; soils collected for PFAS analysis in 2-foot intervals. Soil samples were analyzed for PFAS and soil parameters total organic carbon (TOC) and cation exchange capacity (CEC).
- *October 2022* – Four LNAPL samples collected from four groundwater monitoring wells on MFM and ACM property analyzed for PFAS.

2023

- *February 2023* – Groundwater sampled around MH-102 (groundwater collection discharge location). Seven wells sampled in historical fueling canopy/tank farm area and on WCAA property along Kirk Profit Drive.

- *May 2023* – 66 groundwater wells sampled and analyzed for PFAS, select locations also analyzed for VOCs and metals. Site regions that were sampled include: PCE Area, south triangle area, WCAA parking lot, MFM property, and the property boundary between MFM and WCAA.
- *Spring 2023* – Data from sampling conducted by WCAA and consultants was shared with RACER and GHD.
- *June 2023* – Meeting held between EGLE, RACER, GHD, and WCAA to discuss current understanding of PFAS on the two sites and share PFAS information. WCAA provided GHD and RACER storm water diversion plans for storm sewers on WCAA property.
- *November 2023* – 30 groundwater wells sampled. Utilized Merit ASTM 7979-17D for analysis. Split sampling of two locations using Eurofins EPA 537.1 modified and Merit ASTM 7979-17D.

2024

- *March 2024* – Washtenaw County Water Resources Commissioners Office (WRCO) collected samples from 84-inch outfall, 60-inch outfall, and Tyler Dam Drain.
- *September 2024* – Site visit with EGLE and RACER to inspect the 84-inch outfall and walk the active storm sewer network line (84-inch sewer and ESSD).
- *November 2024* – GHD completed a visual inspection of manholes and structures of the active storm sewer network that includes the 84-inch storm sewer on WCAA property and the ESSD on ACM and MFM property.

4.2 PFAS Analytical Methods

Over the course of environmental investigations of PFAS at the Site, a variety of PFAS analytical methods by different laboratories were used. Changes in PFAS analytical methods reflect the dynamic landscape of PFAS laboratory testing between 2017 and 2024. Methods used include: EPA 537 (Eurofins), TOP Analysis via EPA 537 (Eurofins), ASTM-D7979-17 (Merit), and EPA 537.1 Modified (Eurofins). Early on during PFAS investigations samples were analyzed via EPA Method 537 (Eurofins), which was originally designed to test drinking water. This method produced occasional results that were outside the standard calibration range, were affected by matrix interferences, or elevated reporting limits for PFAS compounds.

Groundwater samples were collected in 2018 for TOP analysis. TOP analysis indirectly quantifies PFAS compounds unlisted in standard analytical methods. In TOP analysis, the sample is first analyzed using a standard PFAS method. A duplicate sample is then rapidly oxidized prior to PFAS analysis then compared to the unoxidized sample. The increase in concentration of PFAS in the oxidized sample reflects PFAS compounds resulting from the degradation of PFAS precursors to terminal PFAS (that are quantified using the standard method) under advanced oxidation conditions.

In 2023, GHD transitioned to using method ASTM D7979-17 (Merit). Analytical results from this method produced more consistent reporting limits across PFAS compounds, in particular PFBA. During a sampling event in November 2023, two duplicate samples were collected from locations with elevated and low PFAS concentrations, respectively, and analyzed by methods ASTM D7979-17 and EPA 537.1 modified. The results from each method confirmed that the two methods produced consistent results.

4.3 Groundwater

Groundwater PFAS investigation activities were initiated in 2018 at groundwater monitoring locations across the Site. Monitoring and groundwater collection system locations sampled and analyzed for PFAS are shown on Figure 5 (Full Site) and Figure 6 (MFM/WCAA Property Boundary). Monitoring locations are located on ACM, MFM, and WCAA property. Analytical results of PFAS in groundwater are presented in Table 1. Analytical results from the French Drain groundwater collection system are presented in Table 2. PFAS investigations in groundwater are primarily focused along the east property boundary between MFM and WCAA, where the French Drain and ESSD are located. Groundwater wells in the south triangle area of the Site, in the PCE Area, and throughout MFM property have also been sampled and analyzed for PFAS.

The highest concentrations of total PFAS detected in groundwater occur along the MFM and WCAA property line. Two hotspots with elevated PFAS concentrations have been identified along this east property boundary – the former tank farm/fueling canopy area and an area east of the MFM building. A color coded grid presented on Figure 7 illustrates the average PFAS concentration across sample locations and highlights the groundwater hotspots.

Within the former tank farm area on WCAA property, groundwater monitoring location GHD-1244M has the highest average PFAS concentrations observed. The average total PFAS concentration at GHD-1244M since 2022, when the monitoring well was installed, is 5,160 ppt. The primary PFAS compound at GHD-1244M is PFOS, which accounts for approximately 48% of all PFAS compounds observed. PFHxS is also a significant fraction of the total PFAS composition at approximately 25% of all PFAS compounds observed. Four other groundwater monitoring locations are located within the tank farm area with elevated levels of PFAS between 1,200 ppt to 3,900 ppt. The PFAS composition at these locations is similarly dominated by PFOS and PFHxS. Stacked column charts illustrating PFAS compound concentrations and total PFAS concentration by location over time are shown on Appendix 1.

Elevated PFAS concentrations in groundwater were also observed in the area along the east property boundary, east of the MFM building, centered at groundwater monitoring location CRA-981M. The average total PFAS concentration at CRA-981M since 2022 is 4,536 ppt. PFAS concentrations at CRA-981M have varied since sampling began. PFOS concentrations have decreased while PFHxS concentrations increased. These results are likely a result of advancements in PFAS analytical methodologies and differences in analytical methods used for PFAS analysis. The most recent sample collected at CRA-981M showed PFHxS as the dominant PFAS compound at 40% of total PFAS observed. PFAS compounds PFOS, PFNS, and PFHxA make up approximately 10% each of total PFAS observed.

Concentrations of PFAS in groundwater monitoring wells along the east property boundary are generally greater than concentrations observed elsewhere on Site. The average total PFAS concentration ranges between 100 ppt and 3,000 ppt at these locations. Generally, PFAS concentrations are greater on the WCAA side of the property boundary compared to the MFM side. PFAS concentrations on MFM property west of the property boundary, in the south triangle area of the Site, and in the northwest corner of the Site are low or non-detect.

The composition of individual PFAS compounds, known as fingerprinting analysis, has been used to identify locations that may present PFAS contamination from similar PFAS sources. PFAS fingerprints are presented in radar plots in Appendix 2, which illustrate PFAS fingerprints as geometric profiles. Generally, monitoring locations have demonstrated consistent PFAS fingerprints over time. Furthermore, groundwater monitoring locations in close proximity tend to share similar PFAS fingerprints.

Samples collected from the French Drain groundwater collection system are presented in Table 2. The groundwater collection system is divided into four sections of six inch perforated high density polyethylene (HDPE) pipe, each with a sump pump to collect groundwater. Samples from the collection system sumps represent aggregate groundwater samples along the length of that section of French Drain. PFAS results from the groundwater collection system show elevated levels of PFAS congruent with the surrounding groundwater. Three samples from MH-102, Sump 2, and Sump 4 were analyzed via TOP analysis. PFAS concentrations in post oxidation analysis were generally consistent with pre oxidation analysis, with moderate increases in some PFCAs.

4.4 Soil

Soil sampling and analysis of PFAS included locations along the east property boundary between MFM and WCAA and locations within the south triangle area of the Site. Soil sample locations are presented on Figure 8. Analytical results of PFAS in soil and soil chemistry parameters are presented in Table 3. Soil samples along the east property boundary were collected from boreholes adjacent to groundwater monitoring locations in 2018. In 2019, soil samples were collected during installation of new monitoring wells in the south triangle area, near the former WWTP. In 2022 additional soil samples were collected from monitoring well installations on WCAA property. Samples were collected in 2-foot intervals. Soil samples from 2022 were analyzed for PFAS as well as soil chemistry parameters CEC and TOC. Soil CEC and TOC were analyzed to characterize adsorption conditions of the subsurface that may affect PFAS sorption to soil particulate. The CEC and TOC analysis was only completed on the 2022 samples.

Concentrations of PFAS in soil along the east property boundary ranged broadly between locations and depth below ground surface (bgs). Generally, PFAS concentrations in soil were greatest near the ground surface. Soil adsorption parameters CEC and TOC did not show significant correlations to PFAS concentration in soil. PFAS concentrations in soil were highly correlated to concentrations in groundwater. For example, the highest concentration of total PFAS detected in soil was 343,000 ppt (0–2 feet bgs) at monitoring location GHD-1244M, where groundwater concentrations are greatest on Site.

Concentrations of PFAS in soil in the south triangle area of the Site were either non-detect or detected below reporting limits (< 200 ppt). These results are also consistent with groundwater results at the corresponding monitoring locations.

The correlation between PFAS concentrations in groundwater and in the surrounding soil, at locations with high concentrations and where PFAS is non-detect, suggest that PFAS contamination in soil and groundwater is linked. The PFAS concentrations near the ground surface indicate that impacted shallow soil and groundwater are a potential source of PFAS constituents.

4.5 Storm Sewer

Storm sewer sampling for PFAS included sample locations along the historical 84-inch storm sewer, the ESSD, two locations within the historical disconnected on Site storm sewer network, and two storm sewer lines on WCAA property. Storm sewer locations sampled for PFAS are presented on Figure 4. Analytical results of PFAS in storm sewer samples are presented in Table 4. The Kirk Profit Drive sewer discharges to a 60-inch outfall adjacent to the 84-inch outfall. The discussion of PFAS in storm sewers is divided between historical on Site storm sewers, the active storm sewer network (84-inch and ESSD), and off Site sewers WCAA storm sewers.

4.5.1 Historical On Site Storm Sewers

Following the detection of PFAS in the groundwater collection system discharge in 2018, GHD sampled two manhole locations (P-1497 and P-879) on the historical disconnected storm sewer network at the Site in June 2018. The manholes were located on abandoned historical sewer lines near the east side of the Main Plant Building (P-879) and west side of the Main Plant Building (P-1497). PFAS results from these manhole locations showed elevated concentrations of PFBA (250 ppt – 670 ppt) and PFOS concentrations above EGLE GSI criteria (17 ppt – 29 ppt). The historical storm sewer network was disconnected (bulkhead installation) from the active storm sewers on Site in 2017. Given this, those historical storm sewers no longer provide a path for PFAS constituents reaching surface waters.

4.5.2 84-Inch & ESSD

Environmental investigations of PFAS in the active storm sewer network (ESSD and 84-inch) were initiated when WCAA erroneously sampled the 84-inch storm sewer outfall in 2019. Elevated concentrations of PFAS were detected in the 84-inch outfall sample.

Following detection of PFAS in the 84-inch outfall sample, GHD collected samples in 2019 from storm sewer manholes upgradient of the outfall along the 84-inch storm sewer and the ESSD. During this sampling event, the groundwater collection system was on, and groundwater elevations were relatively low. Additional samples were collected in 2020 from the ESSD with the groundwater collection turned off, resulting in higher groundwater elevations. Results indicated that there were several locations with PFAS contaminated groundwater infiltration to the ESSD (MH-90 and MH-100). Television inspection of the storm sewer network in December 2021 confirmed leaks in the storm sewer at MH-90 and roof drains H, G, C & D. Repairs to the ESSD were completed by the MFM and ACM in February 2022. Analytical results of PFAS sampling in storm sewers are presented in Table 4.

The investigation of PFAS occurrences in the storm sewer network also revealed elevated PFAS concentrations in the storm sewer sample at the northwest inlet of MH-865 along the 84-inch storm sewer. Groundwater and storm sewer sampling upgradient of the MH-865 NW inlet did not identify a source of the PFAS in MH-865. The storm sewer network in the south triangle area of the Site was not in use for storm water management on Site. Therefore, the

decision was made to bulkhead the NW inlet of MH-865 to eliminate potential PFAS contamination to the 84-inch outfall from the historical storm sewer network in the south triangle area of the Site. The bulkhead was installed in 2020. GHD inspected the bulkhead at NW inlet of MH-865 in August 2024 and found the bulkhead in good condition, without cracks or leaks. These efforts eliminated the pathway for PFAS to reach the 84" outfall from this area.

A fingerprint analysis utilizing radar plots presented in Figure 9 below, shows that the PFAS composition in storm sewer samples near the ESSD leaks match the PFAS composition at the 84-inch outfall. Samples from both the ESSD and storm sewer outfall consist mostly of PFOS, PFHxS, PFNA, and PFOA. These fingerprints show that the 2020 ESSD leaks were a likely source of PFAS discharging from the 84-inch outfall identified in the 2019 and 2020 samples.

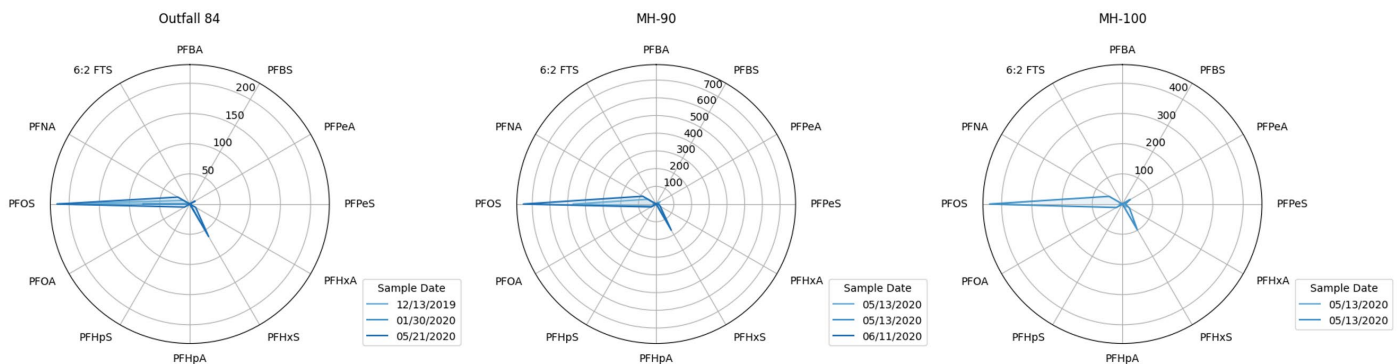


Figure 9: Radar plots of 84-inch outfall, MH-90, and MH-100.

In March of 2024, the WRCO sampled the 84-inch outfall, 60-inch outfall, and Tyler Dam Drain for PFAS. Analytical results from this sampling event and other surface water samples are presented in Table 5. Surface water locations sampled for PFAS are presented on Figure 10. EGLE notified RACER that the results from the 84-inch outfall showed PFOS concentrations exceeding EGLE Part 201 GSI criteria. In November 2024, GHD performed a visual inspection of manholes along the 84-inch storm sewer and ESSD. Groundwater infiltration leaks were discovered at the north roof drain inlet and west side main sewer conduit to MH-90, and the west side main sewer conduit at MH-100. At the time of inspection, groundwater infiltration to the ESSD exhibited consistent, steady flow. Iron staining and mineral deposits were visible at the groundwater infiltration leaks. GHD and RACER informed MFM and ACM of the groundwater leaks to the ESSD in November 2024 so they could initiate repairs to the sealed storm sewer system.

4.5.3 WCAA Storm Sewers

GHD sampled two storm sewer lines on WCAA property: the Kirk Profit Drive storm sewer and a parallel storm sewer east of the MFM/WCAA property line. It is unknown if the sampled storm sewer lines are connected.

GHD sampled the Kirk Profit Drive storm sewer at four locations in November 2023. The highest PFAS concentration was measured in the most upstream manhole (STMH-A6), located near the former tank farm area. Total PFAS concentration measured approximately 20,180 ppt, with PFOS comprising a majority of PFAS compounds detected (>60%). PFAS concentrations decreased further downstream in the Kirk Profit Drive sewer. Total PFAS in the furthest downstream location (SW22-03) measured 394 ppt, with PFOS comprising a majority of PFAS detected (40%). Results from the November 2023 sampling event were consistent with results from previous sampling events conducted by WCAA and their environmental consultants. Analytical results from sampling points including monitoring wells and sewer manholes located on WCAA were shared with WCAA.

The 60-inch outfall sample collected by WRCO on March 1, 2024 showed PFOS concentrations in exceedance of the EGLE Part 201 GSI criteria.

GHD sampled the parallel WCAA storm sewer east of the MFM/WCAA property boundary at three locations in November 2023. The highest concentration of PFAS was observed in the most upstream manhole (MH-EX3). Total PFAS concentration measured approximately 630 ppt, with PFOS and PFNA comprising a majority of the PFAS

compounds detected (>50%). PFAS concentration decreased further downstream. The composition of PFAS in the storm sewer east of the MFM/WCAA property boundary contained a greater proportion of PFNA than surrounding groundwater. Furthermore, the composition of PFAS in the storm sewer samples remained consistent in all three samples. These results indicated that there is no significant groundwater infiltration to the storm sewer that would increase the concentration or alter the composition of PFAS in the storm sewer. The source of PFAS constituents in this storm sewer appear to be distinct from the PFAS source in the groundwater near the east property boundary between MFM and WCAA.

4.6 LNAPL

In October 2022, four LNAPL samples were collected from groundwater monitoring wells CRA-092M, CRA-971M, GHD-988M, and GHD-1214M on MFM and ACM properties and analyzed for PFAS. A summary of the LNAPL analytical results is presented in Table 6, and the locations sampled and analyzed for PFAS are shown on Figure 5 and Figure 6. The typical reporting limit for PFAS is much higher in LNAPL matrices (40–400 ppb) compared to aqueous matrices (2–10 ppt). Results from monitoring wells CRA-092M and GHD-1214M showed PFBA detections of approximately 40 ppb, while all other PFAS compounds in LNAPL samples were non-detect.

PFAS compounds are amphiphilic, containing both hydrophobic chemical moieties (C—F chain) and hydrophilic chemical moieties (acid functional groups). Larger PFAS compounds with longer C—F chains have a greater oil-water partitioning coefficient compared to smaller PFAS compounds with shorter C—F chains. The analytical results from LNAPL samples indicate that while LNAPL may contain PFBA, it does not act as a source of PFAS. This is evidenced by the fact that PFBA concentrations in groundwater at the same locations are either non-detect or detected at concentrations several orders of magnitude lower than those detected in LNAPL.

5. Conceptual Site Model

The CSM for PFAS constituents near the downgradient property boundary is based on information collected to date and GHD's current understanding of PFAS and potential migration pathways present in the area. PFAS has been detected in groundwater and soil. PFAS contamination primarily affects groundwater near the east property boundary between MFM and WCAA. Along this property boundary are located two PFAS hotspots: one in the vicinity of the former tank farm area and fueling canopy, the other is east of the MFM building. PFAS concentrations along the property boundary are greatest on the WCAA side, though concentrations of at least 100 ppt were detected on both MFM and WCAA property. Groundwater in this region of the Site currently flows east and southeast from MFM toward WCAA, but historically (for decades while the plant was operational) was the opposite, with groundwater flowing west.

Groundwater in the south triangle area of the Site and throughout much of MFM property have no PFAS detections or low PFAS concentrations relative to the east property boundary. Other regions of the Site have discontinuous, scattered PFAS detections.

PFAS impacts in soil are consistent with PFAS impacts in groundwater at the same sample locations. PFAS concentrations in soils is greatest near the ground surface, decreasing with greater depth below ground surface. The vertical distribution of PFAS in soil and the colocation of contaminated soil and groundwater suggest that PFAS contamination in these areas originated via surface impacts.

Groundwater on Site generally stays within the Site. Groundwater data does not suggest that groundwater migrates naturally through the subsurface to surface water. PFAS contaminated groundwater near the east property boundary has previously unintentionally infiltrated the ESSD, which was designed to prevent infiltration and is intended to convey only on Site storm water. This ESSD network discharges into the historical 84-inch storm sewer and drains to Tyler Dam drain. Repairs to the ESSD were completed in 2022. An inspection conducted in 2024 of the 84-inch sewer and ESSD revealed PFAS contaminated groundwater is infiltrating the ESSD in the area north of the former tank farm area. Repairs to the ESSD were initiated in January 2025 and will continue as necessary by the property owners.

RACER is responsible for known historical GM releases on Site. However, a declaration of restrictive covenant (DRC) established in 2016 stipulates that all underground storm sewer utilities must be sealed to prevent groundwater infiltration. RACER will continue to advise the property owners at the Site of their obligation to maintain storm sewer infrastructure which prevents impacted groundwater from infiltrating into the storm sewers on the former RACER property.

6. References

Interstate Technology & Regulatory Council (ITRC). 2023. *PFAS Technical and Regulatory Guidance Document and Fact Sheet PFAS-1 Section 2.6 PFAS Releases to the Environment*. Washington, DC: Interstate Technology and Regulatory Council, PFAS Team. <https://pfas-1.itrcweb.org/>.

Tables

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		Red Brick Building Excavation	CRA-092M	CRA-092M	CRA-092M	CRA-097M	CRA-097M	CRA-106M	CRA-106M	CRA-106M	CRA-107M	CRA-107M	CRA-129M	CRA-129M	CRA-129M	CRA-140M
Sample Identification	Groundwater	Water	W-17358-060618-DB-001	GW-11223073-101422-MR-027	GW-12602792-052223-CM-089	GW-12602792-231114-LK-005	GW-11223073-101422-MR-022	GW-12602792-052223-LK-090	GW-11223073-101322-MR-015	GW-12602792-051223-CM-018	GW-12602792-051223-CM-019	GW-11223073-101322-MR-017	GW-12602792-051723-DA-062	GW-11223073-101322-MR-011	GW-12602792-051823-CM-076	GW-12602792-231114-BB-007	GW-17358-121719-DA-007
Sample Date	Surface Water	Solubility	06/06/2018	10/14/2022	05/22/2023	11/14/2023	10/14/2022	05/22/2023	10/13/2022	05/12/2023	05/12/2023	10/13/2022	05/17/2023	10/13/2022	05/18/2023	11/14/2023	12/17/2019
Sample Type	Interface										Duplicate						
Analytic Method	c	f	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	100 U	--	--	1.8 U	--	9.5 U	--	--	1.8 U	--	100 U	--	--	1.9 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	2.0 U	2.0 U	--	2.0 U	--	1.9 U	1.9 U	--	2.0 U	--	2.0 U	2.0 U	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		-	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	100 U	--	--	1.8 U	--	9.5 U	--	--	1.8 U	--	100 U	--	--	1.9 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		21 U	--	2.0 U	2.0 U	--	2.0 U	--	1.9 U	1.9 U	--	2.0 U	--	2.0 U	2.0 U	--
Fluorotelomer sulfonic acid (4:2)	ng/L		3.7 J	100 U	2.0 U	2.0 U	180 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	19 U
Fluorotelomer sulfonic acid (6:2)	ng/L		21 UJ	250 U	2.0 U	3.3	440 U	2.8 I	24 U	1.9 U	1.9 U	2.5 J	2.0 I	250 U	4.6	3.7	19 U
Fluorotelomer sulfonic acid (8:2)	ng/L		--	100 U	2.0 U	2.0 U	180 U	2.0 U	9.5 U	1.9 U	1.9 U	0.93 J	2.0 U	100 U	2.0 U	2.0 U	19 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		21 UJ	200 U	4.0 U	2.0 U	3.5 U	3.9 U	19 U	1.9 U	1.9 U	3.6 U	4.0 U	200 U	3.9 U	2.0 U	3.9 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		21 UJ	250 U	4.0 U	3.9 U	27	29 I	24 U	3.8 U	3.8 U	4.5 U	4.0 U	250 U	3.9 U	4.0 U	19 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		8.6	250 U	2.0 U	2.0 U	4.4 U	2.0 U	24 U	1.9 U	1.9 U	1.8 J	2.0 U	250 U	2.0 U	2.0 U	19 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	290	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	12	100 U	2.0 U	2.0 U	2.4
Perfluorobutanoic acid (PFBA)	ng/L		2.1 U	190 JH	94 U	9.9 U	1400 U	360 U	330 U	73 U	77 U	720 U	170 U	250 U	410 U	10 U	43
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.7	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U
Perfluorodecanoic acid (PFDA)	ng/L		2.1 U	100 U	4.0 U	2.0 U	1.8 U	3.9 U	9.5 U	1.9 U	1.9 U	0.53 JI	4.0 U	100 U	3.9 U	1.7 J	1.9 U
Perfluorododecanoic acid (PFDoDA)	ng/L		0.42 J	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		5.2	100 U	2.0 U	2.0 U	4.6 U	2.0 U	9.5 U	1.9 U	1.9 U	2.8	3.3	100 U	2.0 U	2.0 U	1.9 U
Perfluoroheptanoic acid (PFHpA)	ng/L		5.5	100 U	3.7	5.4	10	5.7	7.1 J	4.3	2.8	7.3	3.2	100 U	11 U	3.5	5.5
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	-	100 U	1.8 J	2.1	1.8 U	1.8 J	3.8 J	2.9	2.7	47	43	100 U	5.3 U	1.7 J	8.5 B
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		-	--	2.0 U	2.0 U	--	2.0 U	--	1.9 U	1.9 U	--	8.1	--	2.0 U	2.0 U	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		17	--	1.8 J	2.1	--	1.8 J	--	1.9 U	2.8	--	33	--	5.3 U	1.7 J	--
Perfluorohexanoic acid (PFHxA)	ng/L		-	29 JH	19	11	9.9	19	9.1 J	11	11	13	9.9	100 U	13	11	15
Perfluorononane sulfonate (PFNS)	ng/L		2.1 U	--	2.0 U	2.0 U	--	2.0 U	--	1.9 U	1.9 U	--	2.0 U	--	2.0 U	2.0 U	--
Perfluorononane sulfonic acid (PFNS)	ng/L		5.8	100 U	--	--	1.8 U	--	9.5 U	--	--	1.8 U	--	100 U	--	--	1.9 U
Perfluorononanoic acid (PFNA)	ng/L	30	2.1 U	100 U	2.8	1.7 J	1.9	1.9 J	1.5 J	1.9 U	1.7 J	1.9	2.0 U	100 U	2.0 U	1.2 J	7.0
Perfluorooctane sulfonamide (FOSA)	ng/L		37c	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	100 U	15 ^c	10	1.8 U	7.6	45 ^c	43 ^c	43 ^c	110 ^c	62 ^c	100 U	2.0 U	5.4	4.7
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		-	--	8.8	5.6	--	4.2	--	16	15	--	43	--	2.0 U	2.7	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		18	--	6.2	4.2	--	3.3	--	26	26	--	18	--	2.0 U	2.8	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	3.0	100 U	17	9.9	17	34	23	22	30	20	100 U	9.3	10	6.7
Perfluoropentane sulfonic acid (PFPeS)	ng/L		2.1 U	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	6.7	5.0	100 U	2.0 U	2.0 U	1.6 J
Perfluoropentanoic acid (PFPeA)	ng/L		2.1 U	35 JH	11 U	24 U	240 U	18 U	170 U	15 U	11 U	170 U	19 U	100 U	22	24 U	14
Perfluorotetradecanoic acid (PFTeDA)	ng/L		2.1 U	100 U	4.0 U	3.9 U	1.8 U	3.9 U	9.5 U	3.8 U	3.8 U	1.8 U	4.0 U	100 U	3.9 U	4.0 U	1.9 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		2.0 J	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U
Perfluoroundecanoic acid (PFUnA)	ng/L		-	100 U	2.0 U	2.0 U	1.8 U	2.0 U	9.5 U	1.9 U	1.9 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	1.9 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-207M	CRA-207M	CRA-207M	CRA-207M	CRA-217M	CRA-217M	CRA-217M	CRA-219M	CRA-219M	CRA-219M	CRA-224M	CRA-224M	CRA-224M	CRA-239M	CRA-267M
Sample Identification	Groundwater	Water	GW-11223073-101422-MR-023	GW-12602792-052223-CM-095	GW-12602792-052223-CM-096	GW-12602792-231114-LK-008	GW-17358-031618-DB-009	GW-11223073-080922-DA-010	GW-12602792-051623-DA-047	GW-11223073-101422-MR-025	GW-12602792-052323-LK-097	GW-12602792-231114-CM-006	GW-17358-031618-DB-007	GW-12602792-051823-DA-078	GW-12602792-231114-LK-012	GW-17358-031618-DB-006	GW-17358-121719-DA-008
Sample Date	Surface Water	Solubility	10/14/2022	05/22/2023	05/22/2023	11/14/2023	03/16/2018	08/09/2022	05/16/2023	10/14/2022	05/23/2023	11/14/2023	03/16/2018	05/18/2023	11/14/2023	03/16/2018	12/17/2019
Sample Type	Interface				Duplicate												
Analytic Method	c	f	E537	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		100 U	--	--	--	--	1.8 U	--	100 U	--	--	--	--	--	--	19 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	1.9 U	1.9 U	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		100 U	2.0 U	2.0 U	2.0 U	--	1.8 U	2.0 U	100 U	2.0 U	2.0 U	--	1.9 U	1.9 U	--	19 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		100 U	--	--	--	--	1.8 U	--	100 U	--	--	--	--	--	--	19 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	1.9 U	1.9 U	--	--
Fluorotelomer sulfonic acid (4:2)	ng/L		100 U	2.0 U	2.0 U	2.0 U	--	1.8 U	2.0 U	100 U	2.0 U	2.0 U	--	1.9 U	1.9 U	--	190 U
Fluorotelomer sulfonic acid (6:2)	ng/L		250 U	3.7	3.3	1.9 J	200 U	4.5 U	2.0 U	250 U	13	3.6	200 U	3.8	1.9 U	200 U	190 U
Fluorotelomer sulfonic acid (8:2)	ng/L		100 U	2.0 U	2.0 U	2.0 U	--	1.8 U	2.0 U	100 U	2.0 U	2.0 U	--	1.9 U	1.9 U	--	190 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		200 U	4.1 U	4.0 U	2.0 U	--	3.6 U	4.0 U	200 U	4.1 U	2.0 U	--	3.9 U	1.9 U	--	37 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		250 U	4.1 U	4.0 U	3.9 U	--	4.5 U	4.0 U	250 U	4.1 U	4.0 U	--	3.9 U	3.9 U	--	190 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		250 U	2.0 U	2.0 U	2.3	--	4.5 U	2.0 U	250 U	2.0 U	1.4 J	--	1.9 U	1.5 J	--	190 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	100 U	2.0 U	2.0 U	2.0 U	1.2 J	1.8 U	2.0 U	100 U	7.8	11	2.0 UJ	1.9 U	1.9 U	1.6 J	19 U
Perfluorobutanoic acid (PFBA)	ng/L		250 U	67 U	91 U	9.9 U	15 JCI	10	9.9 U	160 JH	110 U	9.9 U	61 JCI	29 U	14	20 U	170
Perfluorodecanesulfonic acid (PFDS)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	19 U
Perfluorodecanoic acid (PFDA)	ng/L		100 U	4.1 U	4.0 U	2.0 U	2.0 U	1.9	4.0 U	100 U	4.1 U	2.0 U	2.0 U	3.9 U	1.9 U	0.39 J	19 U
Perfluorododecanoic acid (PFDoDA)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	19 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.1	2.0 U	1.9 U	1.9 U	2.0 U	19 U
Perfluoroheptanoic acid (PFHpA)	ng/L		100 U	3.1	4.0	4.0	1.7 J	1.8	1.9 J	100 U	4.1	8.2	2.5	1.6 J	1.2 J	3.3	15 J
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	100 U	2.0 J	3.0	3.5	2.0 U	0.86 J	2.0 U	74 JH	48	110	3.3	1.9 U	1.9 U	1.9 J	11 JB
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	12	19	--	1.9 U	1.9 U	--	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	2.0 J	3.0	3.5	--	--	2.0 U	--	36	88	--	1.9 U	1.9 U	--	--
Perfluorohexanoic acid (PFHxA)	ng/L		100 U	8.9	5.9	10	2.6	2.0	2.6	31 JH	9.7	38	3.7	2.5 U	7.2 U	4.2	36
Perfluorononane sulfonate (PFNS)	ng/L		--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	1.9 U	1.9 U	--	--
Perfluorononane sulfonic acid (PFNS)	ng/L		100 U	--	--	--	--	1.8 U	--	100 U	--	--	--	--	--	--	19 U
Perfluorononanoic acid (PFNA)	ng/L	30	100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8	2.0 U	100 U	4.7	2.5	0.64 J	1.9 U	1.9 U	0.63 J	2.9 J
Perfluorooctane sulfonamide (FOSA)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	19 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	2.0 U	2.0 U	2.9	2.0 U	7.1	2.7	100 U	19 ^c 40 ^c		8.4 U	4.6	3.2	12	16 J ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	2.0 U	2.0 U	2.0 U	--	--	2.0 U	--	12	30	--	1.9 U	1.9 U	--	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	2.0 U	2.0 U	1.6 J	--	--	2.0 U	--	7.5	9.3	--	4.6	3.2	--	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	100 U	3.1	3.7	1.6 J	3.2	1.8 J	100 U	11	16	2.1 U	3.1	1.9 U	4.4	52
Perfluoropentane sulfonic acid (PFPeS)	ng/L		100 U	2.0 U	2.0 U	2.0 U	--	1.8 U	2.0 U	100 U	4.0	11	--	1.9 U	1.9 U	--	19 U
Perfluoropentanoic acid (PFPeA)	ng/L		100 U	11	12	17 U	0.93 J	6.4	4.0 U	100 U	10 U	34 U	2.0 UJ	9.3 U	6.8 U	2.0 U	19 U
Perfluorotetradecanoic acid (PFTeDA)	ng/L		100 U	4.1 U	4.0 U	3.9 U	2.0 U	1.8 U	4.0 U	100 U	4.1 U	4.0 U	2.0 U	3.9 U	3.9 U	2.0 U	19 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	19 U
Perfluoroundecanoic acid (PFUnA)	ng/L		100 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	1.9 U	1.9 U	20 U	19 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																		
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-315M	CRA-315M	CRA-315M	CRA-320M	CRA-320M	CRA-320M	CRA-321M	CRA-321M	CRA-321M	CRA-343M	CRA-343M	CRA-402R	CRA-402R	CRA-609M	CRA-609M	
Sample Identification	Groundwater	Water	GW-11223073-081022-DA-009	GW-12602792-051823-BC-073	GW-12602792-231113-BB-003	GW-17358-052020-DR-023	GW-11223073-081022-DA-012	GW-12602792-051623-CM-044	W-017358-051118-DA-003	GW-12602792-052323-CM-098	GW-12602792-231113-LK-002	GW-17358-052020-DR-022	GW-12602792-051623-CM-046	GW-11223073-080922-DA-011	GW-12602792-052223-CM-093	GW-17358-121719-DA-009	GW-12602792-051123-LK-003	
Sample Date	Surface Water	Solubility	08/10/2022	05/18/2023	11/13/2023	05/20/2020	08/10/2022	05/16/2023	05/11/2018	05/23/2023	11/13/2023	05/20/2020	05/16/2023	08/09/2022	05/22/2023	12/17/2019	05/11/2023	
Sample Type	Interface																	
Analytic Method	c	f	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	
Parameters	Units																	
Per/Polyfluoroalkyl Substances (PFAS)																		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		1.9 U	--	--	18 U	1.8 U	--	--	--	--	1.9 U	--	19 U	--	1.9 U	--	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	2.1 U	--	2.0 U	--	1.9 U	
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	--	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		1.9 U	--	--	18 U	1.8 U	--	--	--	--	1.9 U	--	19 U	--	1.9 U	--	
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	2.1 U	--	2.0 U	--	1.9 U	
Fluorotelomer sulfonic acid (4:2)	ng/L		1.9 U	1.9 U	2.0 U	180 U	1.8 U	2.0 U	21 U	2.0 U	2.0 U	19 U	2.1 U	19 U	2.0 U	19 U	1.9 U	
Fluorotelomer sulfonic acid (6:2)	ng/L		4.7 U	1.9 U	2.0 U	180 U	4.6 U	2.0 U	24 J	3.8	4.4	19 U	2.1 U	47 U	2.1	19 U	8.0	
Fluorotelomer sulfonic acid (8:2)	ng/L		1.9 U	1.9 U	2.0 U	180 U	1.8 U	2.0 U	21 U	2.0 U	2.0 U	19 U	2.1 U	19 U	2.0 U	19 U	1.9 U	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		3.8 U	3.9 U	2.0 U	37 U	3.7 U	3.9 U	--	4.0 U	2.0 U	3.7 U	4.1 U	38 U	3.9 U	3.8 U	1.9 U	
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.7 U	3.9 U	4.0 U	180 U	4.6 U	3.9 U	21 U	4.0 U	4.0 U	19 U	4.1 U	47 U	3.0 J	19 U	3.9 U	
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		4.7 U	1.9 U	2.0 U	180 U	4.6 U	2.0 U	21 U	2.0 U	2.0 U	19 U	2.1 U	47 U	4.5	19 U	1.9 U	
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	0.63 J	1.9 U	2.0 U	18 U	1.3 JI	2.0 U	1.6 J	2.0 U	1.6 J	0.28 J	2.1 U	19 U	2.0 U	1.9 U	1.9	
Perfluorobutanoic acid (PFBA)	ng/L		15	9.7 U	10 U	5.8 JB	13	9.9 U	110	15	21	12 B	17	47 U	88 U	52	23 U	
Perfluorodecanesulfonic acid (PFDS)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluorodecanoic acid (PFDA)	ng/L		0.50 J	3.9 U	2.0 U	18 U	1.8 U	3.9 U	2.1 U	4.0 U	2.0 U	1.5 J	4.1 U	19 U	3.9 U	1.9 U	1.9 U	
Perfluorododecanoic acid (PFDoDA)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		0.80 J	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluoroheptanoic acid (PFHpA)	ng/L		12	1.9 U	2.4	18 U	1.2 J	1.6 J	41	6.4	8.9	5.1	4.4	2.8 J	4.0	6.5	3.7	
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	2.4	1.9 U	2.0 U	18 U	2.6	2.0 U	8.8	3.4	3.9	1.4 JB	2.1 U	19 U	2.0 U	2.6 B	2.0	
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	2.1 U	--	2.0 U	--	1.9 U	
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	--	2.4	2.8	--	2.1 U	--	2.0 U	--	1.9 U	
Perfluorohexanoic acid (PFHxA)	ng/L		7.8	2.3 U	3.8 U	18 U	1.2 J	2.0 U	140	18	21	9.8	5.5	6.8 J	7.2	17	5.7	
Perfluorononane sulfonate (PFNS)	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	2.1 U	--	2.0 U	--	1.9 U	
Perfluorononane sulfonic acid (PFNS)	ng/L		1.9 U	--	--	18 U	1.8 U	--	2.1 U	--	--	1.9 U	--	19 U	--	1.9 U	--	
Perfluorononanoic acid (PFNA)	ng/L	30	2.3	1.9 U	1.7 J	18 U	1.8 U	2.0 U	1.4 J	2.0 U	1.3 J	2.3	2.1	19 U	2.0 U	0.29 J	1.9 U	
Perfluorooctane sulfonamide (FOSA)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	0.58 JB	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	52 ^c	29 ^c	20 ^c	18 U	3.8	3.7	3.8	4.0	6.6	6.4	25 ^c	9.3	1.9 U	2.0	
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	--	8.9	6.7	--	--	2.0 U	--	2.0 U	2.6	--	2.6	4.1	--	1.9 U	
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	21	13	--	--	2.2	--	2.3	2.8	--	3.8	--	5.1	--	1.9 U	
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	21	1.8 J	4.3	18 U	3.7	4.6	9.6	3.7	4.6	4.9	7.2	11 J	6.0	4.1	
Perfluoropentane sulfonic acid (PFPeS)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	1.3 J	2.0 U	1.6 J	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluoropentanoic acid (PFPeA)	ng/L		9.5	3.9 U	12 U	18 U	2.2	3.9 U	410	35	46	15	12	19 U	7.4 U	15	5.7	
Perfluorotetradecanoic acid (PFTeDA)	ng/L		1.9 U	3.9 U	4.0 U	18 U	1.8 U	3.9 U	2.1 U	4.0 U	4.0 U	1.9 U	4.1 U	19 U	3.9 U	1.9 U	3.9 U	
Perfluorotridecanoic acid (PFTTrDA)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Perfluoroundecanoic acid (PFUnA)	ng/L		1.9 U	1.9 U	2.0 U	18 U	1.8 U	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	2.1 U	19 U	2.0 U	1.9 U	1.9 U	
Notes:																		
U - Not detected at the associated reporting limit.																		
J - Estimated concentration.																		
UJ - Not detected; associated reporting limit is estimated.																		
JH - Estimated value, biased high.																		
JCI- Estimated concentration, biased high due to chromatographic interference.																		
B - Result detected in associated method blank.																		
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.																		
E - Result exceeded calibration range.																		
H - Sample was prepped or analyzed beyond the specified holding time.																		
I - Value is EMPC (estimated maximum possible concentration)																		

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-611M	CRA-611M	CRA-611M	CRA-611M	CRA-613M	CRA-613M	CRA-614M	CRA-614M	CRA-616M	CRA-616M	CRA-703M	CRA-756M	CRA-756M	CRA-756M	CRA-803M
Sample Identification	Groundwater	Water	GW-17358-052120- DR-024	GW-12602792- 051923-CM-083	GW-12602792- 231114-CM-009	GW-12602792- 231114-CM-010	W-017358-051118- DA-004	GW-12602792- 051623-DA-054	W-017358-051118- DA-006	GW-12602792- 051923-CM-081	GW-11223073- 080822-DA-001	GW-12602792- 051823-CM-079	GW-17358-081418- DR-103	GW-11223073- 101322-MR-006	GW-11223073- 101322-MR-007	GW-12602792- 051223-DR-020	GW-11223073- 101422-MR-024
Sample Date	Surface Water	Solubility	05/21/2020	05/19/2023	11/14/2023	11/14/2023	05/11/2018	05/16/2023	05/11/2018	05/19/2023	08/08/2022	05/18/2023	08/14/2018	10/13/2022	10/13/2022	05/12/2023	10/14/2022
Sample Type	Interface					Duplicate									Duplicate		
Analytic Method	c	f	E537	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	E537	ASTMD7979-17M	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		1.8 U	--	--	--	--	--	--	--	1.9 U	--	--	8.7 U	8.8 U	--	1.9 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	2.0 U	1.9 U	2.1 U	--	2.1 U	--	2.0 U	--	2.0 U	--	--	--	2.0 U	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		1.8 U	2.0 U	1.9 U	2.1 U	--	2.1 U	--	2.0 U	1.9 U	2.0 U	--	8.7 U	8.8 U	2.0 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		1.8 U	--	--	--	--	--	--	--	1.9 U	--	--	8.7 U	8.8 U	--	1.9 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	2.0 U	1.9 U	2.1 U	--	2.1 U	--	2.0 U	--	2.0 U	--	--	--	2.0 U	--
Fluorotelomer sulfonic acid (4:2)	ng/L		18 U	2.0 U	1.9 U	2.1 U	21 U	2.1 U	21 U	2.0 U	1.9 U	2.0 U	19 U	8.7 U	8.8 U	2.0 U	1.9 U
Fluorotelomer sulfonic acid (6:2)	ng/L		230	2.0 U	2.0	1.8 J	21 U	2.1 U	21 UJ	2.0 U	4.7 U	2.0 U	19 U	22 U	22 U	2.0 U	4.6 U
Fluorotelomer sulfonic acid (8:2)	ng/L		18 U	2.0 U	1.6 J	2.1 U	21 U	2.1 U	21 U	2.0 U	1.9 U	2.0 U	19 U	8.7 U	8.8 U	2.0 U	0.59 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		3.7 U	3.9 U	1.9 U	2.1 U	--	4.2 U	--	4.0 U	3.7 U	3.9 U	--	17 U	18 U	2.0 U	3.7 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		18 U	3.9 U	3.9 U	4.1 U	21 U	4.2 U	21 U	4.0 U	4.7 U	3.9 U	19 U	22 U	22 U	4.0 U	4.6 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		18 U	2.0 U	1.9 U	2.1 U	21 U	2.1 U	21 U	2.0 U	4.7 U	2.0 U	19 U	22 U	22 U	2.0 U	4.6 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	5.9	2.0 U	1.9 U	2.1 U	0.85 J	2.1 U	1.6 J	2.0 U	1.9 U	2.0 U	0.86 J	8.7 U	8.8 U	2.0 U	1.9 U
Perfluorobutanoic acid (PFBA)	ng/L		6.8	9.8 U	9.7 U	10 U	23	60 U	35	19	4.7 U	16	1.8 J	590 U	390 U	95 U	36
Perfluorodecanesulfonic acid (PFDS)	ng/L		1.8 U	2.0 U	1.9 U	2.1 U	2.1 U	2.1 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluorodecanoic acid (PFDA)	ng/L		1.8 U	3.9 U	1.9 U	1.5 J	2.1 U	4.2 U	2.1 U	4.0 U	1.9 U	3.9 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluorododecanoic acid (PFDoDA)	ng/L		1.8 U	2.0 U	1.9 U	2.1 U	2.1 U	2.1 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		1.8 U	2.0 U	1.9 U	2.1 U	2.1 U	2.1 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluoroheptanoic acid (PFHpA)	ng/L		28	3.7	3.5	2.3	24	3.1	19	2.0 U	8.3	2.0	1.9 U	3.0 J	5.0 J	3.2	1.9 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	16	10	5.7	6.4	7.5	11	5.3	3.5	13	6.5	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	2.0 U	1.9 U	2.1 U	--	3.0	--	2.0 U	--	2.0 U	--	--	--	2.0 U	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	10	5.7	6.4	--	7.6	--	3.5	--	6.5	--	--	--	2.0 U	--
Perfluorohexanoic acid (PFHxA)	ng/L		75	17 U	3.6	4.5 U	42	4.5	45	2.0 U	7.3	7.3	1.9 U	5.4 J	8.8 U	2.0 U	5.4
Perfluorononane sulfonate (PFNS)	ng/L		--	2.0 U	1.9 U	2.1 U	--	2.1 U	--	2.0 U	--	2.0 U	--	--	--	2.0 U	--
Perfluorononane sulfonic acid (PFNS)	ng/L		1.8 U	--	--	--	2.1 U	--	2.1 U	--	1.9 U	--	1.9 U	8.7 U	8.8 U	--	1.9 U
Perfluorononanoic acid (PFNA)	ng/L	30	1.2 J	2.3	3.1	3.2	2.3	4.3	3.4	2.3	0.62 J	2.0 U	1.9 U	8.7 U	1.3 J	2.0 U	1.0 J
Perfluorooctane sulfonamide (FOSA)	ng/L		0.41 J	2.0 U	1.9 U	2.1 U	2.1 U	2.1 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3.3	57 ^c 37 ^c 34 ^c			4.2	8.2	12	29 ^c		1.8 J	1.9 U	13 ^c 13 ^c 16 ^c			11
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	14	12	10	--	3.6	--	11	--	2.0 U	--	--	--	6.9	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	38	24	24	--	4.5	--	18	--	2.0 U	--	--	--	8.8	--
Perfluorooctanoic acid (PFOA)	ng/L	170	12	6.5	6.7	4.2	9.0	7.0	8.9	1.6 J	5.0	4.2	1.9 U	10	12	9.0	4.5
Perfluoropentane sulfonic acid (PFPeS)	ng/L		3.5	6.9	1.9 U	2.1 U	0.64 J	2.1 U	1.5 J	2.0 U	1.7 J	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluoropentanoic acid (PFPeA)	ng/L		63	13 U	9.9 U	11 U	97	11 U	130	4.0 U	1.9 U	5.1 U	0.80 J	300 U	230 U	13 U	5.5
Perfluorotetradecanoic acid (PFTeDA)	ng/L		1.8 U	3.9 U	3.9 U	4.1 U	2.1 U	4.2 U	2.1 U	4.0 U	1.9 U	3.9 U	1.9 U	8.7 U	8.8 U	4.0 U	1.9 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		1.8 U	2.0 U	1.9 U	2.1 U	2.1 U	2.1 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U
Perfluoroundecanoic acid (PFUnA)	ng/L		1.8 U	1.5 J	1.6 J	1.6 J	2.1 U	2.1 U	1.4 J	6.1	1.9 U	2.0 U	1.9 U	8.7 U	8.8 U	2.0 U	1.9 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-803M	CRA-803M	CRA-804M	CRA-804M	CRA-805M	CRA-805M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-806M	CRA-807M	CRA-807M	CRA-827ML	CRA-827ML
Sample Identification	Groundwater	Water	GW-12602792-052223-LK-092	GW-12602792-231113-BB-001	GW-11223073-101422-MR-026	GW-12602792-052223-CM-091	GW-11223073-101322-MR-016	GW-12602792-051723-DA-064	GW-17358-031618-DB-008	GW-11223073-080922-DA-007	GW-11223073-080922-DA-008	GW-12602792-051223-DR-021	GW-12602792-231114-BB-014	GW-11223073-101322-MR-018	GW-12602792-051223-CM-014	GW-11223073-080822-DA-002	GW-12602792-051723-LK-056
Sample Date	Surface Water	Solubility	05/22/2023	11/13/2023	10/14/2022	05/22/2023	10/13/2022	05/17/2023	03/16/2018	08/09/2022	08/09/2022	05/12/2023	11/14/2023	10/13/2022	05/12/2023	08/08/2022	05/17/2023
Sample Type	Interface										Duplicate						
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	100 U	--	9.1 U	--	--	1.8 U	1.8 U	--	--	1.9 U	--	1.8 U	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		2.0 U	2.0 U	--	2.0 U	--	1.9 U	--	--	--	1.9 U	1.9 U	--	2.0 U	--	1.9 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	--	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	100 U	--	9.1 U	--	--	1.8 U	1.8 U	--	--	1.9 U	--	1.8 U	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.0 U	2.0 U	--	2.0 U	--	1.9 U	--	--	--	1.9 U	1.9 U	--	2.0 U	--	1.9 U
Fluorotelomer sulfonic acid (4:2)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	--	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Fluorotelomer sulfonic acid (6:2)	ng/L		2.0 U	1.4 J	250 U	3.9 I	23 U	1.9 U	200 U	4.5 U	4.6 U	1.9 U	1.5 J	4.9 U	2.0 U	41	9.1
Fluorotelomer sulfonic acid (8:2)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	--	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		4.1 U	2.0 U	200 U	4.0 U	18 U	3.8 U	--	3.6 U	3.7 U	1.9 U	1.9 U	3.9 U	2.0 U	3.6 U	3.8 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.1 U	4.0 U	250 U	4.0 U	23 U	3.8 U	--	4.5 U	4.6 U	3.8 U	3.8 U	4.9 U	4.0 U	4.5 U	3.8 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.0 U	2.0 U	250 U	2.0 U	23 U	1.9 U	--	4.5 U	4.6 U	1.9 U	1.9 U	4.9 U	2.0 U	4.5 U	1.9 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	2.0 UJ	1.8 U	0.90 J	1.9 U	1.9 U	1.9 U	2.0 U	7.2	1.9 U
Perfluorobutanoic acid (PFBA)	ng/L		19 U	10 U	250 U	210 U	330 U	98 U	110 JCI	13	11	43 U	9.6 U	380 U	91 U	56	150 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	2.0 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Perfluorodecanoic acid (PFDA)	ng/L		4.1 U	2.0 U	100 U	4.0 U	9.1 U	3.8 U	20 U	0.37 J	0.48 J	1.9 U	1.9 U	1.1 J	2.0 U	0.30 J	3.8 U
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	20 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	2.0 U	0.84 J	1.2 J	1.9 U	1.2 J	2.4	2.0 U	1.3 J	1.9 U
Perfluoroheptanoic acid (PFHpA)	ng/L		3.1	3.4	100 U	5.6	4.5 J	2.8	2.6	10	11	2.8	6.3	6.5	5.3	18	6.9
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	2.0 U	2.0 U	100 U	1.7 J	9.1 U	2.1 U	2.0	3.8	2.9	1.9 U	2.0	4.2 I	2.0 U	96	29
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		2.0 U	2.0 U	--	2.0 U	--	1.9 U	--	--	--	1.9 U	1.9 U	--	2.0 U	--	7.6
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		2.0 U	2.0 U	--	1.7 J	--	2.1 U	--	--	--	1.9 U	2.0	--	2.0 U	--	21
Perfluorohexanoic acid (PFHxA)	ng/L		5.8	13	100 U	2.0 U	8.4 J	9.2 U	2.0 U	3.5	3.1	5.3	10	4.4	11	41	14
Perfluorononane sulfonate (PFNS)	ng/L		2.0 U	2.0 U	--	2.0 U	--	1.9 U	--	--	--	1.9 U	1.9 U	--	2.0 U	--	1.9 U
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	100 U	--	9.1 U	--	--	1.8 U	1.8 U	--	--	1.9 U	--	1.8 U	--
Perfluorononanoic acid (PFNA)	ng/L	30	2.0 U	2.1	100 U	2.0 U	9.1 U	1.9 U	2.0 U	1.3 J	1.3 J	1.9 U	1.5 J	2.1	2.0 U	5.8	3.6
Perfluorooctane sulfonamide (FOSA)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	2.0 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	10	100 U	2.3	9.1 U	2.6	2.0 U	34 I ^e	37 I ^e	42 ^e	56 ^e	110 ^e	76 ^e	25 ^e	28 ^e
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		4.2	6.4	--	2.0 U	--	1.9 U	--	--	--	27	31	--	30	--	10.0
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		5.6	11	--	2.3	--	2.5	--	--	--	15	24	--	43	--	17
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	3.3	5.3	100 U	9.4	7.4 J	8.9	49	52	30	27	38	21	15	9.2
Perfluoropentane sulfonic acid (PFPeS)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	--	1.8 U	1.8 U	1.9 U	1.9 U	0.43 J	2.0 U	14	2.0
Perfluoropentanoic acid (PFPeA)	ng/L		12	20	35 JH	22 U	130 U	24 U	2.0 U	5.6	6.5	17 U	10	170 U	24 U	61	28
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.1 U	4.0 U	100 U	4.0 U	9.1 U	3.8 U	20 U	1.8 U	1.8 U	3.8 U	3.8 U	1.9 U	4.0 U	1.8 U	3.8 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	20 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	2.0 U	100 U	2.0 U	9.1 U	1.9 U	20 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	2.0 U	1.8 U	1.9 U

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

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location		EGLE Generic Groundwater Cleanup Criteria(1)		CRA-827ML	CRA-827ML	CRA-889I	CRA-889M	CRA-971M	CRA-971M	CRA-972M	CRA-972M	CRA-973M	CRA-973M	CRA-974M	CRA-974M	CRA-974M	CRA-975M
Sample Identification		Groundwater	Water	GW-12602792-051723-LK-058	GW-12602792-231113-LK-004	GW-17358-121619-DA-003	GW-17358-121719-DA-004	GW-11223073-101322-MR-005	GW-12602792-051823-CM-069	GW-11223073-101222-MR-001	GW-12602792-051823-DA-068	GW-17358-031618-DB-003	GW-12602792-051823-BC-070	GW-17358-031618-DB-004	GW-17358-031618-DB-005	GW-17358-052120-DR-027	GW-12602792-051723-LK-061
Sample Date		Surface Water	Solubility	05/17/2023	11/13/2023	12/16/2019	12/17/2019	10/13/2022	05/18/2023	10/12/2022	05/18/2023	03/16/2018	05/18/2023	03/16/2018	03/16/2018	05/21/2020	05/17/2023
Sample Type		Interface		Duplicate											Duplicate		
Analytic Method		c	f	ASTMD7979-17M	ASTMD7979-17M	E537	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	ASTMD7979-17M	E537
Parameters		Units															
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate		ng/L		--	--	1.9 U	1.9 U	1.9 U	--	9.1 U	--	--	--	--	--	20 U	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid		ng/L		2.0 U	2.1 U	--	--	--	2.0 U	--	1.9 U	--	2.0 U	--	--	--	2.1 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)		ng/L		2.0 U	2.1 U	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	--	2.0 U	--	--	20 U	2.1 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate		ng/L		--	--	1.9 U	1.9 U	1.9 U	--	9.1 U	--	--	--	--	--	20 U	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid		ng/L		2.0 U	2.1 U	--	--	--	2.0 U	--	1.9 U	--	2.0 U	--	--	--	2.1 U
Fluorotelomer sulfonic acid (4:2)		ng/L		2.0 U	2.1 U	19 U	19 U	1.9 U	2.0 U	9.1 U	1.9 U	--	2.0 U	--	--	200 U	2.1 U
Fluorotelomer sulfonic acid (6:2)		ng/L		8.4	15	19 U	19 U	4.7 U	2.0 U	23 U	1.9 U	2000 U	2.0 U	200 U	200 U	200 U	2.1 U
Fluorotelomer sulfonic acid (8:2)		ng/L		2.0 U	2.1 U	19 U	19 U	1.9 U	2.0 U	9.1 U	1.9 U	--	2.0 U	--	--	200 U	2.1 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)		ng/L		4.0 U	2.1 U	3.7 U	3.7 U	3.7 U	4.0 U	18 U	3.9 U	--	4.0 U	--	--	39 U	4.1 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)		ng/L		4.0 U	4.2 U	19 U	19 U	4.7 U	4.0 U	23 U	3.9 U	--	4.0 U	--	--	200 U	4.1 U
N-Methyl perfluorooctane sulfonamido acetic acid		ng/L		2.0 U	2.1 U	19 U	19 U	4.7 U	2.0 U	23 U	1.9 U	--	2.0 U	--	--	200 U	2.1 U
Perfluorobutane sulfonic acid (PFBS)		ng/L	670000	2.0 U	5.9 U	0.36 J	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	2.0 U	2.0 U	28	20 U	20 U	4.7 U
Perfluorobutanoic acid (PFBA)		ng/L		150 U	11 U	0.68 J	1.8 J	27	110 U	250 U	420 U	20 U	36 U	20 U	20 U	20	230 U
Perfluorodecanesulfonic acid (PFDS)		ng/L		2.0 U	2.1 U	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	20 U	2.0 U	20 U	2.0 U	20 U	2.1 U
Perfluorodecanoic acid (PFDA)		ng/L		4.0 U	2.1 U	1.9 U	1.9 U	1.9 U	4.0 U	9.1 U	3.9 U	20 U	4.0 U	2.0 U	2.0 U	20 U	4.1 U
Perfluorododecanoic acid (PFDoDA)		ng/L		2.0 U	2.1 U	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	20 U	2.0 U	20 U	20 U	20 U	2.1 U
Perfluoroheptane sulfonic acid (PFHpS)		ng/L		2.0 U	2.1 U	1.9 U	1.9 U	0.55 J	2.0 U	9.1 U	1.9 U	20 U	2.0 U	20 U	0.95 J	20 U	2.1 U
Perfluoroheptanoic acid (PFHpA)		ng/L		8.0	8.4	1.9 U	1.9 U	7.2	3.6	7.0 J	4.9	4.8	3.3	3.7	5.6	6.5 J	6.5
Perfluorohexane sulfonic acid (PFHxS)		ng/L	210	31	22	0.38 JB	0.64 JB	1.5 J	2.0 U	9.1 U	2.9	20 U	2.0 U	15	11	27	6.0
Perfluorohexane sulfonic acid (PFHxS) - Branched		ng/L		7.6	5.4	--	--	--	2.0 U	--	1.9 U	--	2.0 U	--	--	--	2.1 U
Perfluorohexane sulfonic acid (PFHxS) - Linear		ng/L		24	17	--	--	--	2.0 U	--	2.9	--	2.0 U	--	--	--	6.0
Perfluorohexanoic acid (PFHxA)		ng/L		16	17	1.9 U	1.9 U	6.3	9.0	12	18 U	32	11 U	2.0 UJ	12 J	6.1 J	9.5 U
Perfluorononane sulfonate (PFNS)		ng/L		2.0 U	2.1 U	--	--	--	2.0 U	--	1.9 U	--	2.0 U	--	--	--	2.1 U
Perfluorononane sulfonic acid (PFNS)		ng/L		--	--	1.9 U	1.9 U	1.9 U	--	9.1 U	--	--	--	--	--	20 U	--
Perfluorononanoic acid (PFNA)		ng/L	30	3.7	2.5	1.9 U	1.9 U	0.87 J	2.0 U	9.1 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.1 U
Perfluorooctane sulfonamide (FOSA)		ng/L		2.0 U	2.1 U	1.9 U	0.37 J	1.9 U	2.0 U	9.1 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.1 U
Perfluorooctane sulfonic acid (PFOS)		ng/L	12	3100	24 ^c	20 ^c	1.9 U	1.9 U	13 ^c	2.9	18 ^c	6.7	2.0 U	7.5	29 ^c	31 ^c	14 J ^c
Perfluorooctane sulfonic acid (PFOS) - Branched		ng/L		8.6	6.9	--	--	--	2.0 U	--	3.2	--	3.6	--	--	--	13
Perfluorooctane sulfonic acid (PFOS) - Linear		ng/L		14	13	--	--	--	2.0 U	--	3.2	--	3.6	--	--	--	7.4
Perfluorooctanoic acid (PFOA)		ng/L	170	9500000000	7.9	7.2	1.9 U	1.9 U	5.8	4.3	12	18 J	6.2	3.8	4.0	15 J	7.4
Perfluoropentane sulfonic acid (PFPeS)		ng/L		2.0 J	4.6	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	--	2.0 U	--	--	20 U	2.1 U
Perfluoropentanoic acid (PFPeA)		ng/L		23	18	0.48 J	1.9 U	12	11 U	200 U	15 U	2.0 U	14 U	2.0 U	2.0 U	20 U	370 U
Perfluorotetradecanoic acid (PFTeDA)		ng/L		4.0 U	1.8 J	1.9 U	1.9 U	1.9 U	4.0 U	9.1 U	3.9 U	20 U	4.0 U	2.0 U	20 U	20 U	4.1 U
Perfluorotridecanoic acid (PFTrDA)		ng/L		2.0 U	2.1 U	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	20 U	2.0 U	20 U	20 U	20 U	2.1 U
Perfluoroundecanoic acid (PFUnA)		ng/L		2.0 U	1.6 J	1.9 U	1.9 U	1.9 U	2.0 U	9.1 U	1.9 U	20 U	2.0 U	20 U	20 U	20 U	2.1 U
Notes:																	
U - Not detected at the associated reporting limit.																	
J - Estimated concentration.																	
UJ - Not detected; associated reporting limit is estimated.																	
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Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																									
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-975M	CRA-978M	CRA-978M	CRA-979M	CRA-979M	CRA-979M	CRA-980M	CRA-980M	CRA-980M	CRA-981M	CRA-981M	CRA-981M	CRA-981M	CRA-981M	CRA-982M								
Sample Identification	Groundwater	Water	GW-12602792- 051923-LK-082	GW-11223073- 101222-MR-002	GW-12602792- 051923-LK-084	GW-11223073- 050422-AC-007	GW-12602792- 052323-CM-099	GW-12602792- 231117-DB-032	GW-11223073- 050422-AC-006	GW-12602792- 052323-LK-101	GW-12602792- 231117-DB-033	GW-11223073- 050422-AC-005	GW-11223073- 061322-AC-021	GW-12602792- 052323-LK-103	GW-12602792- 231117-LK-036	GW-12602792- 231117-LK-037	GW-11223073- 050422-AC-004								
Sample Date	Surface Water	Solubility	05/19/2023	10/12/2022	05/19/2023	05/04/2022	05/23/2023	11/17/2023	05/04/2022	05/23/2023	11/17/2023	05/04/2022	06/13/2022	05/23/2023	11/17/2023	11/17/2023	05/04/2022								
Sample Type	Interface																								
Analytic Method	c	f	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537								
Parameters	Units																								
Per/Polyfluoroalkyl Substances (PFAS)																									
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	1.9 U	--	--	--	--	--	--	--	--	1.9 U	--	--	--	--								
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		2.0 U	--	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	--	2.0 U	2.0 U	2.0 U	1.9 U								
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	1.9 U	--	--	--	--	--	--	--	--	1.9 U	--	--	--	--								
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.0 U	--	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	--	2.0 U	2.0 U	2.0 U	1.9 U								
Fluorotelomer sulfonic acid (4:2)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Fluorotelomer sulfonic acid (6:2)	ng/L		12 I	4.4 J	4.4	4.1 J	2.0 U	4.8	4.3 U	2.8	4.4	8.4	22	6.8	28	26	4.7 U								
Fluorotelomer sulfonic acid (8:2)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		4.0 U	3.8 U	4.1 U	3.5 U	4.0 U	2.0 U	3.5 U	4.0 U	2.0 U	3.3 U	3.8 U	4.0 U	2.0 U	4.1 U	3.7 U								
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.0 U	4.8 U	4.1 U	4.4 U	4.0 U	4.0 U	4.3 U	4.0 U	4.0 U	4.1 U	4.7 U	4.0 U	4.0 U	5.1 U	4.7 U								
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.0 U	4.8 U	2.1 U	4.4 U	2.0 U	2.0 U	4.3 U	2.0 U	2.0 U	4.1 U	4.7 U	2.0 U	2.0 U	5.1 U	4.7 U								
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	2.0 U	1.9 U	2.1 U	0.59 J	2.0 U	2.0 U	2.3	2.0 U	2.3	15	28	14	47	43	0.95 J								
Perfluorobutanoic acid (PFBA)	ng/L		10 U	310 U	120 U	30	39	10.0 U	23	66 U	10.0 U	30	63	36	90	64	9.0								
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Perfluorodecanoic acid (PFDA)	ng/L		4.0 U	0.55 J	4.1 U	1.5 J	4.0 U	2.0 U	1.7 U	4.0 U	2.0 U	0.94 J	1.9 U	4.0 U	2.0 U	0.34 J	1.9 U								
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		2.0 U	1.9 U	2.1 U	0.25 J	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	62	55	18	14	17	1.9 U								
Perfluoroheptanoic acid (PFHpA)	ng/L		6.1 U	4.0	4.2	23	39	5.3	5.8	3.2	3.9	30	60	20	68	66	7.2								
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	2.0 U	1.2 J	2.1 U	5.8	13	5.5	9.2	4.9	13	<table><tr><td>520 E^c</td><td>670 E^c</td><td>350^c</td><td>870^c</td><td>880^c</td></tr></table>					520 E ^c	670 E ^c	350 ^c	870 ^c	880 ^c	9.7			
520 E ^c	670 E ^c	350 ^c	870 ^c	880 ^c																					
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		2.0 U	--	2.1 U	--	2.0 U	1.8 J	--	2.0 U	3.5	--	--	49	130	--	--								
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		2.0 U	--	2.1 U	--	11	4.5	--	4.9	8.4	--	--	300	740	--	--								
Perfluorohexanoic acid (PFHxA)	ng/L		2.0 U	6.4	2.1 U	36	68	12	14	6.2	8.2	77	160	70	220	250	16								
Perfluorononane sulfonate (PFNS)	ng/L		2.0 U	--	2.1 U	--	2.0 U	2.0 U	--	2.0 U	2.0 U	--	--	2.0 U	2.0 U	--	--								
Perfluorononane sulfonic acid (PFNS)	ng/L		--	1.9 U	--	1.7 U	--	--	1.7 U	--	--	1.6 U	1.9 U	--	--	2.0 U	1.9 U								
Perfluorononanoic acid (PFNA)	ng/L	30	2.2	1.2 J	2.1 U	2.4	1.9 J	2.5	1.3 J	2.0 U	3.4	<table><tr><td>560 E^c</td><td>500 E^c</td><td>150^c</td><td>180^c</td><td>180^c</td></tr></table>					560 E ^c	500 E ^c	150 ^c	180 ^c	180 ^c	0.83 J			
560 E ^c	500 E ^c	150 ^c	180 ^c	180 ^c																					
Perfluorooctane sulfonamide (FOSA)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	<table><tr><td>18^c</td></tr></table>	18 ^c	9.9	12	8.3	7.6	4.8	5.7	9.9	<table><tr><td>15^c</td></tr></table>	15 ^c	<table><tr><td>7900 E^{cd}</td></tr></table>	7900 E ^{cd}	<table><tr><td>4300 E^{cd}</td></tr></table>	4300 E ^{cd}	<table><tr><td>1900^c</td></tr></table>	1900 ^c	<table><tr><td>220^c</td></tr></table>	220 ^c	<table><tr><td>240 B^c</td></tr></table>	240 B ^c	2.3
18 ^c																									
15 ^c																									
7900 E ^{cd}																									
4300 E ^{cd}																									
1900 ^c																									
220 ^c																									
240 B ^c																									
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		7.9	--	5.0	--	5.8	2.9	--	4.7	8.5	--	--	560	140	--	--								
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		10	--	6.8	--	2.0 U	2.6	--	4.8	7.4	--	--	1300	87	--	--								
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	8.8	8.6	7.5	10	16	4.9	3.4	5.1	6.1	30	50	20	58	2.9								
Perfluoropentane sulfonic acid (PFPeS)	ng/L		2.0 U	1.9 U	2.1 U	0.66 J	2.0 U	1.8 J	1.3 J	2.0 U	1.9 J	37	65	32	110	69	2.1								
Perfluoropentanoic acid (PFPeA)	ng/L		4.0 U	140 U	23 U	78	130	24	23	17	14	90	240	92	320	270	13								
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.0 U	1.9 U	4.1 U	1.7 U	4.0 U	4.0 U	1.7 U	4.0 U	4.0 U	1.6 U	1.9 U	4.0 U	4.0 U	2.0 U	1.9 U								
Perfluorotridecanoic acid (PFTTrDA)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	2.0 U	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	1.9 U	2.1 U	1.7 U	2.0 U	2.0 U	1.7 U	2.0 U	1.3 J	1.6 U	1.9 U	2.0 U	2.0 U	2.0 U	1.9 U								
Notes:																									
U - Not detected at the associated reporting limit.																									
J - Estimated concentration.																									
UJ - Not detected; associated reporting limit is estimated.																									
JH - Estimated value, biased high.																									
JCI- Estimated concentration, biased high due to chromatographic interference.																									
B - Result detected in associated method blank.																									
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.																									
E - Result exceeded calibration range.																									
H - Sample was prepped or analyzed beyond the specified holding time.																									
I - Value is EMPC (estimated maximum possible concentration)																									

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		CRA-982M	CRA-982M	CRA-983M	CRA-983M	CRA-983M	CRA-983M	CRA-983M	GHD-986M	GHD-986M	GHD-988M	GHD-988M	GHD-999M	GHD-999M	GHD-999M	GHD-1004M
Sample Identification	Groundwater	Water	GW-12602792-052323-CM-105	GW-12602792-231117-LK-038	GW-11223073-050422-AC-002	GW-11223073-050422-AC-003	GW-11223073-061322-AC-020	GW-12602792-052423-LK-108	GW-12602792-231117-BB-040	GW-11223073-080922-DA-005	GW-12602792-051823-BC-077	GW-11223073-101422-MR-020	GW-12602792-052223-LK-094	GW-11223073-081022-DA-013	GW-12602792-051823-DA-074	GW-12602792-051823-DA-075	W-017358-051118-DA-001
Sample Date	Surface Water	Solubility	05/23/2023	11/17/2023	05/04/2022	05/04/2022	06/13/2022	05/24/2023	11/17/2023	08/09/2022	05/18/2023	10/14/2022	05/22/2023	08/10/2022	05/18/2023	05/18/2023	05/11/2018
Sample Type	Interface															Duplicate	
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	1.8 U	--	--	18 U	--	18 U	--	18 U	--	--	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	--	2.0 U	2.0 U	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	1.8 U	--	--	18 U	--	18 U	--	18 U	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	--	2.0 U	2.0 U	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
Fluorotelomer sulfonic acid (4:2)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	20 U
Fluorotelomer sulfonic acid (6:2)	ng/L		4.1	18	1100 E	1100 E	44	200	400	45 U	2.0 U	45 U	2.1 U	46 U	2.0 U	2.0 U	11 J
Fluorotelomer sulfonic acid (8:2)	ng/L		2.0 U	2.0 U	1.8	1.9	1.8 U	14	22	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	20 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		4.0 U	2.0 U	3.4 U	3.5 U	3.7 U	4.0 U	2.0 U	36 U	4.0 U	36 U	4.2 U	37 U	4.0 U	4.0 U	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.0 U	3.9 U	4.3 U	4.4 U	4.6 U	4.0 U	4.0 U	45 U	4.0 U	45 U	4.2 U	46 U	4.0 U	4.0 U	20 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.0 U	2.0 U	4.3 U	4.4 U	4.6 U	2.0 U	2.0 U	45 U	2.0 U	45 U	2.1 U	46 U	2.0 U	2.0 U	20 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	3.0	4.4	1.7 U	1.7 U	1.4 JI	2.5	2.4 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	27
Perfluorobutanoic acid (PFBA)	ng/L		38 U	9.8 U	120	130	26	58	10 U	45 U	240 U	410 U	79 U	46 U	10 U	10.0 U	110
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	2.0 U
Perfluorodecanoic acid (PFDA)	ng/L		4.0 U	2.0 U	1.7 U	1.7 U	1.8 U	4.0 U	2.0 U	18 U	4.0 U	18 U	4.2 U	18 U	4.0 U	4.0 U	0.39 J
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	2.0 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		2.0 U	2.0	1.7 U	1.7 U	1.8 U	2.0 U	1.2 J	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	8.9
Perfluoroheptanoic acid (PFHpA)	ng/L		4.6	5.8	190	180	20	12	25	18 U	2.8 U	18 U	3.7	18 U	2.1	2.0 U	41
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	25	69	9.7	10	5.0	6.5	15	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	550 ^c
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		4.5	13	--	--	--	2.0 U	3.5	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		18	56	--	--	--	6.2	11	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
Perfluorohexanoic acid (PFHxA)	ng/L		9.5	18	160	160	22	15	34	18 U	2.3	6.5 J	7.3	18 U	2.0 U	2.0 U	150
Perfluorononane sulfonate (PFNS)	ng/L		2.0 U	2.0 U	--	--	--	2.0 U	2.0 U	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	1.7 U	1.7 U	1.8 U	--	--	18 U	--	18 U	--	18 U	--	--	2.0 U
Perfluorononanoic acid (PFNA)	ng/L	30	5.2	9.8	1.6 J	1.5 J	0.54 J	10	12	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	68 ^c
Perfluorooctane sulfonamide (FOSA)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	2.0 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	16 ^c	32 ^c	2.0	1.9	1.8 U	8.2	19 ^c	18 U	2.0 U	7.0 J	4.6	10 J	3.1	130 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		7.2	17	--	--	--	6.6	13	--	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		8.0	17	--	--	--	2.0 U	5.2	--	2.0 U	--	2.6	--	3.0	4.0	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	5.3	7.6	38	38	8.8	21	30	18 U	4.1	18 U	4.2	18 U	1.8 J	34
Perfluoropentane sulfonic acid (PFPeS)	ng/L		3.3	7.8	4.1	3.4	0.80 J	2.0 U	2.7	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	80
Perfluoropentanoic acid (PFPeA)	ng/L		12	20	120	110	27	16	23	18 U	4.0 U	80 U	15 U	18 U	3.9 J	5.4 U	150
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.0 U	3.9 U	1.7 U	1.7 U	1.8 U	4.0 U	4.0 U	18 U	4.0 U	18 U	4.2 U	18 U	4.0 U	4.0 U	2.0 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	2.0 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	2.0 U	2.0 U	18 U	2.0 U	18 U	2.1 U	18 U	2.0 U	2.0 U	2.0 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		GHD-1004M	GHD-1004M	GHD-1004M	GHD-1005M	GHD-1005M	GHD-1005M	GHD-1005M	GHD-1006M	GHD-1006M	GHD-1120M	GHD-1210M	GHD-1210M	GHD-1210M	GHD-1210M	GHD-1211M
Sample Identification	Groundwater	Water	W-017358-051118- DA-002	GW-12602792- 051823-CM-080	GW-12602792- 231114-CM-016	W-017358-051118- DA-005	GW-17358-052120- DR-025	GW-12602792- 051723-DA-059	GW-12602792- 231114-BB-011	GW-17358-052120- DR-026	GW-12602792- 051923-CM-085	GW-17358-081418- DR-104	GW-11223073- 101322-MR-012	GW-11223073- 101322-MR-013	GW-12602792- 051723-LK-063	GW-12602792- 231114-BB-017	GW-11223073- 080922-DA-006
Sample Date	Surface Water	Solubility	05/11/2018	05/18/2023	11/14/2023	05/11/2018	05/21/2020	05/17/2023	11/14/2023	05/21/2020	05/19/2023	08/14/2018	10/13/2022	10/13/2022	05/17/2023	11/14/2023	08/09/2022
Sample Type	Interface		Duplicate											Duplicate			
Analytic Method	c	f	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	1.8 U	--	--	1.8 U	--	--	2.0 U	1.9 U	--	--	1.8 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	1.9 U	--	2.0 U	--	--	--	2.0 U	2.1 U	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		--	1.9 U	2.0 U	--	1.8 U	2.0 U	1.9 U	1.8 U	2.0 U	--	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	1.8 U	--	--	1.8 U	--	--	2.0 U	1.9 U	--	--	1.8 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	1.9 U	--	2.0 U	--	--	--	2.0 U	2.1 U	--
Fluorotelomer sulfonic acid (4:2)	ng/L		20 U	1.9 U	2.0 U	20 U	18 U	2.0 U	1.9 U	18 U	2.0 U	16 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Fluorotelomer sulfonic acid (6:2)	ng/L		12 J	3.9	3.1	3.6 J	6.2 J	2.3	3.0	18 U	2.0 U	16 U	5.0 U	4.7 U	2.0 U	2.1 U	4.4 U
Fluorotelomer sulfonic acid (8:2)	ng/L		20 U	1.9 U	2.0 U	20 U	18 U	2.0 U	1.9 U	18 U	2.0 U	16 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		--	3.9 U	2.0 U	--	3.7 U	4.0 U	1.9 U	3.7 U	3.9 U	--	4.0 U	3.8 U	4.1 U	2.1 U	3.5 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		20 U	3.9 U	3.9 U	20 U	18 U	4.0 U	3.8 U	18 U	3.9 U	16 U	5.0 U	4.7 U	4.1 U	4.1 U	4.4 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		20 U	1.9 U	2.0 U	20 U	18 U	2.0 U	1.9 U	18 U	2.0 U	16 U	5.0 U	4.7 U	2.0 U	2.1 U	4.4 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	30	1.9 U	3.1	7.4	6.5	3.0	3.5	4.5	4.5	0.23 J	2.0 U	1.9 U	1.8 J	9.9	3.3
Perfluorobutanoic acid (PFBA)	ng/L		100	71 U	61 U	84	41	48 U	9.4 U	32	24 U	1.6 U	540 U	4.7 U	17 U	76 U	29
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	1.9 U	2.0 U	2.0 U	1.8 U	2.0 U	1.9 U	1.8 U	2.0 U	1.6 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Perfluorodecanoic acid (PFDA)	ng/L		2.0 U	3.9 U	2.0 U	2.0 U	1.8 U	4.0 U	1.9 U	1.8 U	3.9 U	1.6 U	2.0 U	1.9 U	4.1 U	2.1 U	1.1 J
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	1.9 U	2.0 U	2.0 U	1.8 U	2.0 U	1.9 U	1.8 U	2.0 U	1.6 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		7.8	5.2	5.5	0.61 J	0.46 J	2.5	3.1	1.8 U	2.0 U	1.6 U	5.9	6.0	2.1	5.4	3.9
Perfluoroheptanoic acid (PFHpA)	ng/L		39	6.3	3.7	12	8.3	5.0	8.1	3.2	5.1	1.6 U	5.5	5.1	2.9	5.6	6.5
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	540 ^c	51	37	24	14	43	46	5.6	13	1.6 U	94	96	17	61	81
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	5.0	7.8	--	--	5.5	6.2	--	5.6	--	--	--	2.5	10.0	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	43	29	--	--	36	40	--	7.2	--	--	--	14	50	--
Perfluorohexanoic acid (PFHxA)	ng/L		150	9.0	7.2	56	68	15	14	26	19	1.6 U	7.3	8.3	5.7 U	12	13
Perfluorononane sulfonate (PFNS)	ng/L		--	1.9 U	2.0 U	--	--	2.0 U	1.9 U	--	2.0 U	--	--	--	2.0 U	2.1 U	--
Perfluorononane sulfonic acid (PFNS)	ng/L		2.0 U	--	--	2.0 U	1.8 U	--	--	1.8 U	--	1.6 U	2.0 U	1.9 U	--	--	1.8 U
Perfluorononanoic acid (PFNA)	ng/L	30	67 ^c	110 ^c	93 ^c	0.84 J	0.60 J	29	39 ^c	1.8 U	2.0 U	1.6 U	94 ^c	92 ^c	40 ^c	84 ^c	73 ^c
Perfluorooctane sulfonamide (FOSA)	ng/L		2.0 U	1.9 U	2.0 U	2.0 U	1.8 U	2.0 U	1.9 U	0.33 J	2.0 U	1.6 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	130 ^c	240 ^c	440 ^c	22 ^c	12	92 ^c	180 ^c	1.8 U	2.0 U	1.6 U	300 ^c	300 ^c	100 ^c	210 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	110	120	--	--	56	86	--	2.0 U	--	--	--	36	81	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	140	320	--	--	34	93	--	2.0 U	--	--	--	64	130	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	33	8.2	8.2	5.9	3.5	16	17	1.8 U	1.8 J	22	22	10	18	22
Perfluoropentane sulfonic acid (PFPeS)	ng/L		82	2.7	2.0	5.0	5.0	3.8	4.7	3.2	3.5	1.6 U	11	13	2.0 J	6.9	8.0
Perfluoropentanoic acid (PFPeA)	ng/L		140	7.7	15 U	210	110	19	21	60	20	1.6 U	210 U	1.9 U	8.8 U	25 U	8.7
Perfluorotetradecanoic acid (PFTeDA)	ng/L		2.0 U	3.9 U	3.9 U	2.0 U	1.8 U	4.0 U	3.8 U	1.8 U	3.9 U	1.6 U	2.0 U	1.9 U	4.1 U	4.1 U	1.8 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		2.0 U	1.9 U	2.0 U	2.0 U	1.8 U	2.0 U	1.9 U	1.8 U	2.0 U	1.6 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	3.5	4.2	2.0 U	1.8 U	2.0 U	1.9 U	1.8 U	2.0 U	1.6 U	2.0 U	1.9 U	2.0 U	2.1 U	1.8 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1
PFAS Analytical Results Summary - Groundwater
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		GHD-1211M	GHD-1211M	GHD-1214M	GHD-1214M	GHD-1214M	GHD-1223M	GHD-1223M	GHD-1226M	GHD-1226M	GHD-1229M	GHD-1229M	GHD-1232I	GHD-1232M	GHD-1233I	GHD-1233I
Sample Identification	Groundwater	Water	GW-12602792-051723-BC-060	GW-12602792-231114-CM-013	GW-11223073-101322-MR-009	GW-12602792-051623-DR-052	GW-12602792-231114-BB-015	GW-17358-052620-DR-031	GW-12602792-051123-LK-006	GW-17358-052620-DR-030	GW-12602792-051123-CM-004	GW-17358-052120-DR-028	GW-12602792-051223-LK-015	GW-17358-121619-DA-006	GW-17358-121619-DA-005	GW-17358-121719-DA-010	GW-17358-121719-DA-011
Sample Date	Surface Water	Solubility	05/17/2023	11/14/2023	10/13/2022	05/16/2023	11/14/2023	05/26/2020	05/11/2023	05/26/2020	05/11/2023	05/21/2020	05/12/2023	12/16/2019	12/16/2019	12/17/2019	12/17/2019
Sample Type	Interface																Duplicate
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	E537	E537
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	190 U	--	--	1.9 U	--	1.8 U	--	1.9 U	--	2.0 U	1.9 U	1.9 U	1.9 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		2.0 U	2.0 U	--	2.0 U	2.1 U	--	2.0 U	--	2.0 U	--	1.9 U	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	190 U	--	--	1.9 U	--	1.8 U	--	1.9 U	--	2.0 U	1.9 U	1.9 U	1.9 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.0 U	2.0 U	--	2.0 U	2.1 U	--	2.0 U	--	2.0 U	--	1.9 U	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ng/L		2.0 U	2.0 U	940 U	2.0 U	2.1 U	19 U	2.0 U	18 U	2.0 U	19 U	1.9 U	20 U	19 U	19 U	19 U
Fluorotelomer sulfonic acid (6:2)	ng/L		2.0 U	2.0 U	470 U	2.5 I	2.9	2.3 J	2.0 U	18 U	5.3	19 U	1.9 U	7.0 J	19 U	19 U	19 U
Fluorotelomer sulfonic acid (8:2)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	19 U	2.0 U	18 U	2.0 U	19 U	1.9 U	20 U	19 U	19 U	19 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		4.0 U	2.0 U	380 U	4.0 U	2.1 U	3.7 U	2.0 U	3.6 U	2.0 U	3.7 U	1.9 U	3.9 U	3.7 U	3.7 U	3.7 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.0 U	4.0 U	470 U	4.0 U	4.1 U	19 U	4.0 U	18 U	4.1 U	19 U	3.8 U	20 U	19 U	19 U	19 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.0 U	2.0 U	470 U	2.0 U	1.8 J	19 U	2.0 U	18 U	2.0 U	19 U	1.9 U	20 U	19 U	19 U	19 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	2.7	3.2	190 U	2.0 U	2.1 U	1.9 U	2.0	1.8 U	2.1	1.9 U	1.4 J	2.0 U	3.5	1.9 U	1.9 U
Perfluorobutanoic acid (PFBA)	ng/L		16 U	16 U	470 U	300 U	10 U	14	10.0 U	9.1	18 U	7.1	13 U	1.8 J	17	1.9 U	0.81 J
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorodecanoic acid (PFDA)	ng/L		4.0 U	2.0 U	190 U	4.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	0.33 J	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		3.0	6.4	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	0.40 J	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluoroheptanoic acid (PFHpA)	ng/L		3.8	4.6	190 U	2.6 U	3.4	7.8	2.3	5.6	3.9	13	3.4	2.0 U	2.1	1.9 U	1.9 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	47	57	190 U	3.8 U	3.4	10	12	5.7	4.2	8.8	5.5	0.39 JB	6.3 B	0.27 JB	0.33 JB
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		5.6	7.2	--	2.0 U	2.1 U	--	2.7	--	2.0 U	--	1.6 J	--	--	--	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		40	49	--	3.8 U	3.4	--	7.8	--	4.1	--	3.7	--	--	--	--
Perfluorohexanoic acid (PFHxA)	ng/L		9.1	10	190 U	2.0 U	4.9 U	13	5.6	6.7	4.9	13	4.4	2.0 U	3.7	1.9 U	1.9 U
Perfluorononane sulfonate (PFNS)	ng/L		2.0 U	2.0 U	--	2.0 U	2.1 U	--	2.0 U	--	2.0 U	--	1.9 U	--	--	--	--
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	190 U	--	--	1.9 U	--	1.8 U	--	1.9 U	--	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorononanoic acid (PFNA)	ng/L	30	22	28	190 U	2.0 U	1.7 J	0.62 J	2.0 U	2.0	2.0 U	7.3	3.4	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorooctane sulfonamide (FOSA)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12			190 U	9.1	10	2.7	3.5	1.8 U	2.0 U		4.7	2.0 U	1.0 J	1.9 U	1.9 U
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		68	100	--	4.3	3.9	--	2.0 U	--	2.0 U	--	3.6	--	--	--	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		68	140	--	4.8	6.2	--	2.0 U	--	2.0 U	--	1.9 U	--	--	--	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	16	190 U	3.7	3.6	9.6	5.0	8.0	8.9	19	7.0	2.0 U	6.6	1.9 U	1.9 U
Perfluoropentane sulfonic acid (PFPeS)	ng/L		4.0	4.1	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9	1.9 U	2.0 U	12	1.9 U	1.9 U
Perfluoropentanoic acid (PFPeA)	ng/L		5.8	6.3	190 U	4.0 U	11 U	8.7	4.6	5.0	4.1 U	8.1	5.2	0.70 J	4.5	1.9 U	0.56 J
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.0 U	4.0 U	190 U	4.0 U	4.1 U	1.9 U	4.0 U	1.8 U	4.1 U	1.9 U	3.8 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	2.0 U	190 U	2.0 U	2.1 U	1.9 U	2.0 U	1.8 U	2.0 U	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
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H - Sample was prepped or analyzed beyond the specified holding time.
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(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																		
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		GHD-1233M	GHD-1234I	GHD-1234M	GHD-1235M	GHD-1235M	GHD-1236M	GHD-1236M	GHD-1236M	GHD-1236M	GHD-1237M	GHD-1237M	GHD-1238M	GHD-1238M	GHD-1238M	GHD-1239M	
Sample Identification	Groundwater	Water	GW-17358-121719- DA-012	GW-17358-121619- DA-002	GW-17358-121619- DA-001	GW-11223073- 120822-SK-013	GW-12602792- 052323-CM-100	GW-11223073- 120822-SK-012	GW-12602792- 052323-LK-102	GW-12602792- 231117-DB-034	GW-12602792- 231117-DB-035	GW-11223073- 120822-SK-011	GW-12602792- 052323-CM-104	GW-11223073- 120722-SK-005	GW-12602792- 052323-LK-106	GW-12602792- 231117-LK-039	GW-11223073- 120722-SK-004	
Sample Date	Surface Water	Solubility	12/17/2019	12/16/2019	12/16/2019	12/08/2022	05/23/2023	12/08/2022	05/23/2023	11/17/2023	11/17/2023	12/08/2022	05/23/2023	12/07/2022	05/23/2023	11/17/2023	12/07/2022	
Sample Type	Interface																	
Analytic Method	c	f	E537	E537	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	
Parameters	Units																	
Per/Polyfluoroalkyl Substances (PFAS)																		
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		1.9 U	1.8 U	1.8 U	--	--	--	--	--	--	--	--	--	--	--	--	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	--	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	0.80 J	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		1.9 U	1.8 U	1.8 U	--	--	--	--	--	--	--	--	--	--	--	--	
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	--	--	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
Fluorotelomer sulfonic acid (4:2)	ng/L		19 U	18 U	18 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
Fluorotelomer sulfonic acid (6:2)	ng/L		19 U	2.2 J	18 U	40	14	8.0 H	2.3 I	4.6	4.8 J	33	9.1	63	15	11	1400 E	
Fluorotelomer sulfonic acid (8:2)	ng/L		19 U	18 U	18 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	0.45 J	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	8.7	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		3.9 U	3.7 U	3.7 U	3.3 U	4.1 U	3.7 U	3.9 U	2.0 U	3.9 U	3.6 U	4.0 U	3.9 U	4.0 U	2.0 U	3.7 U	
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		19 U	18 U	18 U	4.1 U	4.1 U	4.6 U	3.9 U	3.9 U	4.9 U	4.5 U	4.0 U	4.9 U	4.0 U	4.1 U	4.6 U	
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		19 U	18 U	18 U	4.1 U	2.1	4.6 U	2.0 U	2.0 U	4.9 U	4.5 U	2.0 U	4.9 U	2.0 U	2.0 U	4.6 U	
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	1.9 U	3.5	2.9	1.8	11	1.8 U	2.0 U	2.0 U	1.3 J	55	19	4.0	4.6	3.2	1.8 U	
Perfluorobutanoic acid (PFBA)	ng/L		4.1	19	13	15	29	270 H	120 U	9.8 U	2.5 J	56	49	190	46 U	10 U	520 E	
Perfluorodecanesulfonic acid (PFDS)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
Perfluorodecanoic acid (PFDA)	ng/L		1.9 U	1.8 U	1.8 U	0.29 JI	4.1 U	0.61 JH	3.9 U	2.0 U	0.75 J	1.8 U	4.0 U	2.0 U	4.0 U	2.0 U	1.8 U	
Perfluorododecanoic acid (PFDoDA)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	32	35	5.6	2.0 U	1.9 J	0.34 J	
Perfluoroheptanoic acid (PFHpA)	ng/L		0.86 J	1.8	1.8 U	17	15	6.5 H	1.7 J	3.9	4.4	60	39	21	5.7	5.5	170	
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	0.71 JB	3.2 B	4.5 B	16	9.4	9.1 H	4.4	5.8	8.3	880 E ^c 650 ^c 220 ^c			69	50	43	
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	--	--	--	2.4	--	2.0 U	2.0 U	--	--	75	--	11	8.4	--	
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	--	--	--	6.9	--	4.4	5.8	--	--	570	--	56	41	--	
Perfluorohexanoic acid (PFHxA)	ng/L		1.4 J	11	5.7	19	31	11 H	5.7 X	5.9	8.7	110	110	38	13	11	160	
Perfluorononane sulfonate (PFNS)	ng/L		--	--	--	--	2.0 U	--	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	2.0 U	--	
Perfluorononane sulfonic acid (PFNS)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	--	1.8 U	--	--	2.0 U	1.8 U	--	2.0 U	--	--	1.8 U	
Perfluorononanoic acid (PFNA)	ng/L	30	1.9 U	1.8 U	1.8 U	1.9	2.0	5.6 H	3.6	3.4	4.1	340 ^c 470 ^c		26	17	18	3.7	
Perfluorooctane sulfonamide (FOSA)	ng/L		1.9 U	0.35 J	0.59 J	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	0.97 J	2.0 U	2.0 U	1.8 U	
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	1.8 U	1.8 U	4.7	7.2	18 H ^c 15 ^c 16 ^c 25 B ^c				360 E ^c	670 ^c	78 ^c	40 ^c	56 ^c	8.7 I	
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L			--	--	--	--	3.1	--	6.0	5.8	--	--	370	--	25	28	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	--	--	--	3.9	--	8.5	9.9	--	--	300	--	14	28	--	
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	0.90 J	1.3 J	1.1 J	11	6.9 H	4.6	4.3	6.6	63	44	32	8.0	8.4	140	
Perfluoropentane sulfonic acid (PFPeS)	ng/L			1.9 U	0.78 J	1.4 J	3.1	2.0 U	1.5 JH	2.0 U	2.0 U	0.62 J	96	46	21	5.6	4.9	8.2
Perfluoropentanoic acid (PFPeA)	ng/L			1.8 J	8.7	6.8	38	56	28 H	13 U	17	24	140	150	24	18	10	120
Perfluorotetradecanoic acid (PFTeDA)	ng/L			1.9 U	1.8 U	1.8 U	1.7 U	4.1 U	1.8 U	3.9 U	3.9 U	2.0 U	1.8 U	4.0 U	2.0 U	4.0 U	4.1 U	1.8 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	
Perfluoroundecanoic acid (PFUnA)	ng/L		1.9 U	1.8 U	1.8 U	1.7 U	2.0 U	1.8 U	2.0 U	1.7 J	1.4 J	1.8 U	2.0 U	2.0 U	2.0 U	2.0 U	1.8 U	

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		GHD-1239M	GHD-1239M	GHD-1240M	GHD-1240M	GHD-1240M	GHD-1240M	GHD-1241M	GHD-1241M	GHD-1242M	GHD-1242M	GHD-1242M	GHD-1243M	GHD-1243M	GHD-1243M	GHD-1243M
Sample Identification	Groundwater	Water	GW-12602792-052423-CM-107	GW-12602792-231117-BB-041	GW-11223073-120722-SK-003	GW-12602792-052423-CM-109	GW-12602792-231117-BB-042	GW-12602792-231117-BB-043	GW-11223073-120722-SK-002	GW-12602792-052423-LK-110	GW-11223073-120722-SK-001	GW-12602792-052423-LK-111	GW-12602792-231117-LK-044	GW-11223073-120822-SK-010	GW-12602792-022323-LK-004	GW-12602792-051823-CM-072	GW-12602792-231115-BB-019
Sample Date	Surface Water	Solubility	05/24/2023	11/17/2023	12/07/2022	05/24/2023	11/17/2023	11/17/2023	12/07/2022	05/24/2023	12/07/2022	05/24/2023	11/17/2023	12/08/2022	02/23/2023	05/18/2023	11/15/2023
Sample Type	Interface							Duplicate									
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	ASTMD7979-17M	ASTMD7979-17M
Parameters	Units																
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	--	1.8 U	--	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	--	2.0 U	1.9 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	--	1.8 U	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	--	2.0 U	1.9 U
Fluorotelomer sulfonic acid (4:2)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Fluorotelomer sulfonic acid (6:2)	ng/L		550	780	4.8 U	2.1 U	2.1 U	1.7 J	3.8 J	2.1 U	4.7 U	2.0 U	2.0 U	4.7 U	4.5 U	2.0 U	1.9 U
Fluorotelomer sulfonic acid (8:2)	ng/L		12	75	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		4.1 U	2.0 U	3.8 U	4.2 U	2.1 U	2.0 U	3.7 U	4.1 U	3.7 U	3.9 U	2.0 U	3.7 U	3.6 U	4.1 U	1.9 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.1 U	4.1 U	4.8 U	4.2 U	4.1 U	4.0 U	4.6 U	4.1 U	4.7 U	3.9 U	4.0 U	4.7 U	4.5 U	4.1 U	3.8 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.1 U	2.0 U	4.8 U	2.1 U	2.1 U	2.0 U	4.6 U	2.1 U	4.7 U	2.0 U	2.0 U	4.7 U	4.5 U	2.0 U	1.9 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	2.2	2.0	1.9 U	2.8	3.3	2.9	7.2	3.0	1.9 U	4.0	3.6 U	54	38	19	19
Perfluorobutanoic acid (PFBA)	ng/L		59	41 U	140	40 U	10 U	9.9 U	56	15	350	44	19	20	17	13	9.6 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Perfluorodecanoic acid (PFDA)	ng/L		4.1 U	2.0 U	1.9 U	4.2 U	2.1 U	2.0 U	1.9 U	4.1 U	0.47 J	3.9 U	1.0 J	1.9 U	1.8 U	4.1 U	1.9 U
Perfluorododecanoic acid (PFDoDA)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		2.1 U	2.0 U	3.1	2.4	2.1	3.8	1.9 U	2.1 U	1.0 J	2.0 U	2.0 U	37	16	14	16
Perfluoroheptanoic acid (PFHpA)	ng/L		35	49	9.0	5.6	5.8	9.5	8.3	4.5	6.9	11	4.4	22	18	9.9	11
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	9.0	14	51	34	38	46	11	9.1	80	50	32	1300 E ^c 520 E ^c 450 ^c 600 ^c			
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		2.1 U	2.0 J	--	5.3	5.8	8.6	--	2.7	--	8.3	5.0	--	--	62	70
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		8.8	12	--	27	30	37	--	6.1	--	40	25	--	--	390	530
Perfluorohexanoic acid (PFHxA)	ng/L		57	53	15	14	12	18	51	16	13	19	15	54	51	30	36
Perfluorononane sulfonate (PFNS)	ng/L		2.1 U	2.0 U	--	2.1 U	2.1 U	2.0 U	--	2.1 U	--	2.0 U	2.0 U	--	--	2.0 U	1.9 U
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	1.9 U	--	--	--	1.9 U	--	1.9 U	--	--	1.9 U	1.8 U	--	--
Perfluorononanoic acid (PFNA)	ng/L	30	4.9	8.4	30	15	13	19	1.9 U	2.1 U	1.8 JI	2.0 U	1.7 J	450 E ^c 250 ^c 210 ^c 300 ^c			
Perfluorooctane sulfonamide (FOSA)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	4.3	7.8	200 ^c 110 ^c 130 ^c 170 ^c				1.6 J	4.9	65 ^c 32 ^c 45 ^c 250 ^c				1.8 U	84 ^c 98 ^c	
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		3.5	6.0	--	43	52	65	--	2.6	--	18	16	--	--	83	96
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		2.1 U	1.6 J	--	61	74	110	--	2.2	--	13	29	--	--	2.0 U	1.7 J
Perfluorooctanoic acid (PFOA)	ng/L	170	75	57	18	15	11	17	1.7 J	3.0	9.2	9.0	6.7	160	92	63	80
Perfluoropentane sulfonic acid (PFPeS)	ng/L		2.1 U	2.3	3.6	3.8	3.9	4.0	6.3	2.6	20 I	6.3	4.0	110	82	39	44
Perfluoropentanoic acid (PFPeA)	ng/L		79	55	12	15	16	17	71	30	35	37	16	15	18	11	10
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.1 U	4.1 U	1.9 U	4.2 U	4.1 U	4.0 U	1.9 U	4.1 U	1.9 U	3.9 U	4.0 U	1.9 U	1.8 U	4.1 U	3.8 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.1 U	2.0 U	1.9 U	2.1 U	2.1 U	2.0 U	1.9 U	2.1 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	2.0 U	1.9 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location		EGLE Generic Groundwater Cleanup Criteria(1)		GHD-1244M	GHD-1244M	GHD-1244M	GHD-1244M	GHD-1244M	IG-1	IG-2	MW-6	MW-6	MW-6	MW-6	MW-6	MW-9	MW-9
Sample Identification		Groundwater	Water	GW-11223073-120822-SK-008	GW-11223073-120822-SK-009	GW-12602792-022323-LK-005	GW-12602792-051723-BC-065	GW-12602792-231115-BB-018	GW-12602792-051123-CM-002	GW-11223073-050622-AC-014	GW-11223073-050622-AC-009	GW-11223073-061322-AC-018	GW-12602792-022423-LK-008	GW-12602792-051723-LK-067	GW-12602792-231115-BB-031	GW-11223073-050522-AC-010	GW-11223073-061322-AC-019
Sample Date		Surface Water	Solubility	12/08/2022	12/08/2022	02/23/2023	05/17/2023	11/15/2023	05/11/2023	05/06/2022	05/06/2022	06/13/2022	02/24/2023	05/17/2023	11/15/2023	05/05/2022	06/13/2022
Sample Type		Interface			Duplicate												
Analytic Method		c	f	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537
Parameters		Units															
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate		ng/L		--	--	1.8 U	--	--	--	--	--	1.8 U	1.8 U	--	--	--	1.9 U
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid		ng/L		1.8 U	1.8 U	--	2.0 U	2.0 U	2.0 U	1.7 U	1.7 U	--	--	2.0 U	2.0 U	1.7 U	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)		ng/L		1.8 U	1.8 U	1.8 U	2.0 U	2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	1.8 U	2.0 U	2.0 U	1.7 U	1.9 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate		ng/L		--	--	1.8 U	--	--	--	--	--	1.8 U	1.8 U	--	--	--	1.9 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid		ng/L		1.8 U	1.8 U	--	2.0 U	2.0 U	2.0 U	1.7 U	1.7 U	--	--	2.0 U	2.0 U	1.7 U	--
Fluorotelomer sulfonic acid (4:2)		ng/L		1.8 U	1.8 U	1.8 U	2.0 U	2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	1.8 U	2.0 U	2.0 U	1.7 U	1.9 U
Fluorotelomer sulfonic acid (6:2)		ng/L		220 U	230 U	2.4 J	3.1	6.9	2.0 U	4.3 U	4.3 U	4.5 U	4.6 U	2.0 U	2.0 U	4.2 U	4.7 U
Fluorotelomer sulfonic acid (8:2)		ng/L		0.81 J	0.72 J	0.45 J	2.0 U	2.0 U	2.0 U	1.7 U	1.7 U	1.8 U	1.8 U	2.0 U	2.0 U	1.7 U	1.9 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)		ng/L		3.6 U	3.6 U	3.6 U	3.9 U	2.0 U	2.0 U	3.5 U	3.5 U	3.6 U	3.7 U	3.9 U	2.0 U	3.3 U	3.7 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)		ng/L		4.4 U	4.5 U	4.5 U	3.9 U	4.0 U	3.9 U	4.3 U	4.3 U	4.5 U	4.6 U	3.9 U	4.0 U	4.2 U	4.7 U
N-Methyl perfluorooctane sulfonamido acetic acid		ng/L		4.4 U	4.5 U	4.5 U	2.0 U	2.0 U	2.0 U	4.3 U	4.3 U	4.5 U	4.6 U	2.0 U	2.0 U	4.2 U	4.7 U
Perfluorobutane sulfonic acid (PFBS)		ng/L	670000	67	71	43	26	32	1.9 J	1.7 U	12	9.6	21	8.3	10	49	51
Perfluorobutanoic acid (PFBA)		ng/L		93	93	35	99 U	10 U	47 U	20	16	11	5.8	9.8 U	11 U	12	12
Perfluorodecanesulfonic acid (PFDS)		ng/L		1.8 U	1.8 U	1.8 U	2.0 U	2.0 U	2.0 U	1.7 U	0.51 J	1.8 U	0.50 J	2.0 U	1.6 J	1.7 U	1.9 U
Perfluorodecanoic acid (PFDA)		ng/L		2.7	2.4	1.9	3.9 U	1.6 J	2.0 U	1.2 J	0.76 J	1.8 U	1.3 J	3.9 U	1.9 J	0.65 J	1.9 U
Perfluorododecanoic acid (PFDoDA)		ng/L		1.8 U	1.8 U	1.8 U	2.0 U	2.0 U	2.0 U	1.7 U	0.79 J	1.2 J	1.6 J	2.0 U	1.7 J	1.7 U	1.9 U
Perfluoroheptane sulfonic acid (PFHpS)		ng/L		100	92	73	170	120	2.0 U	1.7 U	9.1	15	15	8.2	14	45	49
Perfluoroheptanoic acid (PFHpA)		ng/L		26	25	27	13	15	2.0 U	1.9	5.8	5.7	9.2	4.8	4.9	18	18
Perfluorohexane sulfonic acid (PFHxS)		ng/L	210	1200 ^c					6.0	6.3	230 ^c			220 ^c	240 ^c	970 E ^c	1200 E ^c
Perfluorohexane sulfonic acid (PFHxS) - Branched		ng/L		--	--	--	140	110	2.0 U	--	--	--	--	34	35	--	--
Perfluorohexane sulfonic acid (PFHxS) - Linear		ng/L		--	--	--	1300	1100	6.0	--	--	--	--	190	210	--	--
Perfluorohexanoic acid (PFHxA)		ng/L		60	58	100	84	67	5.0	3.3	21	19	34	18	26	100	96
Perfluorononane sulfonate (PFNS)		ng/L		--	--	--	2.0 U	2.0 U	2.0 U	--	--	--	--	2.0 U	2.0 U	--	--
Perfluorononane sulfonic acid (PFNS)		ng/L		1.8 U	1.8 U	1.8 U	--	--	--	1.7 U	1.7 U	1.8 U	1.8 U	--	--	1.7 U	1.9 U
Perfluorononanoic acid (PFNA)		ng/L	30	990 ^c					2.0 U	1.9	110 ^c			120 ^c	180 ^c	380 E ^c	430 E ^c
Perfluorooctane sulfonamide (FOSA)		ng/L		15	13	14	8.8	8.8	3.3	5.8	1.5 J	1.9 B	2.5	2.0 U	3.7	1.7 U	1.9 U
Perfluorooctane sulfonic acid (PFOS)		ng/L	12	4400 ^{cd}					44 ^c	60 ^c	410 E ^c			770 E ^c	550 E ^c	440 ^c	630 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched		ng/L		--	--	--	1100	1200	11	--	--	--	--	160	230	--	--
Perfluorooctane sulfonic acid (PFOS) - Linear		ng/L		--	--	--	530	1100	31	--	--	--	--	280	410	--	--
Perfluorooctanoic acid (PFOA)		ng/L	170	160	150	200 ^c			1.8 J	2.9	24	26	39	21	21	110	140
Perfluoropentane sulfonic acid (PFPeS)		ng/L		100	100	99	53	61	2.0 U	1.7 U	22	22	49	20	19	120	130
Perfluoropentanoic acid (PFPeA)		ng/L		20	22	17	54	9.9	11 U	7.3	3.9	3.2	4.6	2.2 J	7.2	17	21
Perfluorotetradecanoic acid (PFTeDA)		ng/L		1.8 U	1.8 U	1.8 U	3.9 U	4.0 U	3.9 U	1.7 U	1.7 U	1.8 U	1.8 U	3.9 U	4.0 U	1.7 U	1.9 U
Perfluorotridecanoic acid (PFTrDA)		ng/L		1.8 U	1.8 U	1.8 U	2.0 U	2.0 U	2.0 U	1.7 U	12	24	19	27	50	1.7 U	1.9 U
Perfluoroundecanoic acid (PFUnA)		ng/L		1.8 U	1.8 U	1.4 J	2.0 U	1.2 J	2.0 U	1.7 U	41	50	87	62	62	1.7 U	1.9 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 1 PFAS Analytical Results Summary - Groundwater Former Willow Run Powertrain Ypsilanti, MI																	
Sample Location		EGLE Generic Groundwater Cleanup Criteria(1)		MW-9	MW-9	MW-9	MW-101	MW-101	MW-103	MW-103	MW-103	MW-103	MW-103	WCAA-MW14-2017	WCAA-MW14-2017	WCAA-MW09-2017	WCAA-MW09-2017
Sample Identification		Groundwater	Water	GW-12602792- 051823-DA-071	GW-12602792- 231115-BB-020	GW-12602792- 231115-BB-021	GW-11223073- 050622-AC-013	GW-12602792- 051923-LK-088	GW-11223073- 050522-AC-008	GW-11223073- 061322-AC-017	GW-12602792- 022423-LK-009	GW-12602792- 051723-DA-066	GW-12602792- 022323-LK-003	GW-12602792- 051923-CM-087	GW-12602792- 022323-LK-001	GW-12602792- 022323-LK-002	GW-12602792- 051923-LK-086
Sample Date		Surface Water	Solubility	05/18/2023	11/15/2023	11/15/2023	05/06/2022	05/19/2023	05/05/2022	06/13/2022	02/24/2023	05/17/2023	02/23/2023	05/19/2023	02/23/2023	02/23/2023	05/19/2023
Sample Type		Interface				Duplicate										Duplicate	
Analytic Method		c	f	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	E537	E537	E537	E537	ASTMD7979-17M	E537	ASTMD7979-17M	E537	ASTMD7979-17M
Parameters		Units															
Per/Polyfluoroalkyl Substances (PFAS)																	
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate		ng/L		--	--	--	--	--	--	1.9 U	1.9 U	--	1.8 U	--	1.8 U	1.7 U	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	--	--	2.1 U	--	2.0 U	--	--	2.0 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate		ng/L		--	--	--	--	--	--	1.9 U	1.9 U	--	1.8 U	--	1.8 U	1.7 U	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	--	--	2.1 U	--	2.0 U	--	--	2.0 U
Fluorotelomer sulfonic acid (4:2)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Fluorotelomer sulfonic acid (6:2)		ng/L		2.0 U	2.0 U	2.0 U	4.2 U	2.0 U	4.3 U	4.8 U	4.7 U	2.1 U	4.5 U	2.0 U	73	24	5.6
Fluorotelomer sulfonic acid (8:2)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)		ng/L		4.0 U	2.0 U	2.0 U	3.4 U	4.0 U	3.4 U	3.9 U	3.8 U	4.2 U	3.6 U	4.1 U	3.5 U	3.4 U	4.1 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)		ng/L		4.0 U	3.9 U	4.0 U	4.2 U	4.0 U	4.3 U	4.8 U	4.7 U	4.2 U	4.5 U	4.1 U	4.4 U	4.3 U	4.1 U
N-Methyl perfluorooctane sulfonamido acetic acid		ng/L		2.0 U	2.0 U	2.0 U	4.2 U	2.0 U	4.3 U	4.8 U	4.7 U	2.1 U	4.5 U	2.0 U	4.4 U	4.3 U	2.0 U
Perfluorobutane sulfonic acid (PFBS)		ng/L	670000	22	33	33	1.7 U	2.0 U	49	44	130	41	1.1 J	2.0 U	4.2	3.7	2.0 U
Perfluorobutanoic acid (PFBA)		ng/L		12	9.5 J	9.3 J	4.2 U	48 U	9.1	12	16	10 U	4.3 J	10 U	20	19	10 U
Perfluorodecanesulfonic acid (PFDS)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Perfluorodecanoic acid (PFDA)		ng/L		4.0 U	2.0 U	2.0 U	0.46 J	4.0 U	0.58 J	1.9 U	1.9 U	4.2 U	1.8 U	4.1 U	1.8 U	1.7 U	4.1 U
Perfluorododecanoic acid (PFDoDA)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Perfluoroheptane sulfonic acid (PFHpS)		ng/L		22	48	45	1.7 U	2.0 U	12	17	19	16	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Perfluoroheptanoic acid (PFHpA)		ng/L		8.1	13	13	0.49 J	1.8 J	12	9.7	19	8.0	1.8 U	2.0 U	6.2	5.9	2.4
Perfluorohexane sulfonic acid (PFHxS)		ng/L	210	520 ^c	1200 ^c	1200 ^c	1.9	5.6	1100 E ^c	1000 E ^c	720 E ^c	1000 ^c	0.81 J	2.0 U	30	31	6.4
Perfluorohexane sulfonic acid (PFHxS) - Branched		ng/L		87	160	150	--	2.0 U	--	--	--	160	--	2.0 U	--	--	1.6 J
Perfluorohexane sulfonic acid (PFHxS) - Linear		ng/L		430	1100	1100	--	4.1	--	--	--	870	--	2.0 U	--	--	4.5
Perfluorohexanoic acid (PFHxA)		ng/L		42	44	42	1.7 U	5.0	56	41	120	49	1.8 U	2.0 U	22	22	7.7
Perfluorononane sulfonate (PFNS)		ng/L		2.0 U	2.0 U	2.0 U	--	2.0 U	--	--	--	2.1 U	--	2.0 U	--	--	2.0 U
Perfluorononane sulfonic acid (PFNS)		ng/L		--	--	--	1.7 U	--	1.7 U	1.9 U	1.9 U	--	1.8 U	--	1.8 U	1.7 U	--
Perfluorononanoic acid (PFNA)		ng/L	30	180 ^c	490 ^c	470 ^c	0.76 J	2.0 U	31 ^c	37 ^c	69 ^c	49 ^c	1.8 U	2.0 U	1.3 J	1.0 J	2.0 U
Perfluorooctane sulfonamide (FOSA)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Perfluorooctane sulfonic acid (PFOS)		ng/L	12	890 ^c	1800 ^c	1900 ^c	4.3	9.3	300 ^c	300 ^c	370 E ^c	290 ^c	1.8 U	2.0 U	1.4 J	1.3 J	2.9
Perfluorooctane sulfonic acid (PFOS) - Branched		ng/L		400	820	850	--	5.6	--	--	--	150	--	2.0 U	--	--	2.0 U
Perfluorooctane sulfonic acid (PFOS) - Linear		ng/L		490	1100	1100	--	3.7	--	--	--	140	--	2.0 U	--	--	2.0 U
Perfluorooctanoic acid (PFOA)		ng/L	170	60	120	110	1.7 U	2.0 J	83	77	55	58	1.8 U	2.0 U	3.7	3.6	2.2
Perfluoropentane sulfonic acid (PFPeS)		ng/L		51	83	82	1.7 U	2.0 U	110	90	220	78	1.8 U	2.0 U	7.3	7.2	2.0 U
Perfluoropentanoic acid (PFPeA)		ng/L		8.6	10	11	1.7 U	7.8 U	6.7	6.0	19	6.5	1.8 U	4.1 U	33	33	8.1
Perfluorotetradecanoic acid (PFTeDA)		ng/L		4.0 U	3.9 U	4.0 U	1.7 U	4.0 U	1.7 U	1.9 U	1.9 U	4.2 U	1.8 U	4.1 U	1.8 U	1.7 U	4.1 U
Perfluorotridecanoic acid (PFTrDA)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	1.7 U	1.9 U	1.9 U	2.1 U	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U
Perfluoroundecanoic acid (PFUnA)		ng/L		2.0 U	2.0 U	2.0 U	1.7 U	2.0 U	13	6.1	1.9 U	11	1.8 U	2.0 U	1.8 U	1.7 U	2.0 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
H - Sample was prepped or analyzed beyond the specified holding time.
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(1) EGLE - Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic cleanup criteria and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 2 PFAS Analytical Report Summary - French Drain Groundwater Collection System Former Willow Run Powertrain Ypsilanti, MI														
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102	MH-102
Sample Identification			GW-17358-031618-DB-002	W-17358-032218-DA-010	W-17358-032918-DA-011	W-017358-051118-DA-015	W-17358-070918-DB-009	W-17358-082218-DB-017 Pre Oxidation	W-17358-082218-DB-017 Post Oxidation	W-17358-091118-DA-005	W-17358-091118-DA-006	W-17358-111918-AM-001	W-17358-111918-AM-002	W-17358-112918-DB-096
Sample Date	Groundwater	Water	03/16/2018	03/22/2018	03/29/2018	05/11/2018	07/09/2018	08/22/2018	08/22/2018	09/11/2018	09/11/2018	11/19/2018	11/19/2018	11/29/2018
Analytic Method	Surface Water	Solubility	E537	E537	E537	E537	E537	E537 TOP	E537 TOP	E537	ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M
Parameters	c	f	Units											
Per/Polyfluoroalkyl Substances (PFAS)														
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ng/L		--	--	--	20 UJ	160 U	--	--	170 U	10 U	10 U	88 U	10 U
Fluorotelomer sulfonic acid (6:2)	ng/L		32 J	37 J	200 U	33 J	160 U	87 J	50 U	110 J	90	40	1800 U	40
Fluorotelomer sulfonic acid (8:2)	ng/L		--	200 U	200 U	20 UJ	160 UJ	50 UJ	50 U	170 U	10 U	10 U	1800 U	10 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		--	200 U	200 U	20 UJ	160 U	50 UJ	50 U	170 U	10 U	10 U	1800 U	10 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		--	200 U	200 U	20 UJ	160 U	50 UJ	50 U	170 U	10 U	10 U	1800 U	10 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	14 J	28	12 J	16 J	7.1 J	14 J	13	17	10	10	12	10 U
Perfluorobutanoic acid (PFBA)	ng/L		130 JCI	520 JCI	31	62	350 JCI	72	96	130 U	100 U	130	49 B	100
Perfluorodecanesulfonic acid (PFDS)	ng/L		20 U	20 U	20 U	2.0 U	16 U	5.0 U	5.0 U	1.7 U	10 U	10 U	8.8 U	10 U
Perfluorodecanoic acid (PFDA)	ng/L		20 U	20 U	20 U	2.0 UJ	16 U	5.0 UJ	5.0 U	17 U	10 U	10 U	8.8 U	10 U
Perfluorododecanoic acid (PFDoDA)	ng/L		20 U	20 U	20 U	2.0 UJ	16 U	5.0 UJ	5.0 U	17 U	10 U	10 U	8.8 U	10 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		2.3 J	5.0 J	5.2 J	4.0	7.2 J	5.0 UJ	6.6	7.8	10 U	10 U	13	10 U
Perfluoroheptanoic acid (PFHpA)	ng/L		14	17 J	17 J	15	17	19 J	21	22	30	10	19	10
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	170	180	170 J	140 J	170	150 J	160	190 B	240 ^c	180	210 B	150
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	--	--	--	--	--	--	--	40	30	--	20
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	--	--	--	--	--	--	--	200	140	--	120
Perfluorohexanoic acid (PFHxA)	ng/L		66	66	80	67 J	84	85 J	220	110	100	90	88	70
Perfluorononane sulfonate (PFNS)	ng/L		--	--	--	--	--	--	--	--	--	--	--	--
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	--	2.0 U	16 U	--	--	1.7 U	10 U	10 U	8.8 U	10 U
Perfluorononanoic acid (PFNA)	ng/L	30	110 ^c	120 ^c	120 J ^c	95 J ^c	100 ^c	89 J ^c	84 ^c	110 ^c	160 ^c	120 ^c	150 ^c	100 ^c
Perfluorooctane sulfonamide (FOSA)	ng/L		20 U	20 U	20 U	2.0 UJ	16 U	40 UJ	40 U	0.30 J	10 U	10 U	1.8 U	10 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	380 ^c	370 ^c	390 J ^c	390 ^c	360 ^c	370 J ^c	300 ^c	420 ^c	750 ^c	420 ^c	450 ^c	390 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	--	--	--	--	--	--	--	250	180	--	150
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	--	--	--	--	--	--	--	490	250	--	230
Perfluorooctanoic acid (PFOA)	ng/L	170	30	34 U	38	24	27	26	32	32	40	20	31	20
Perfluoropentane sulfonic acid (PFPeS)	ng/L		--	--	--	16 J	21	--	--	32	20	20	21	10
Perfluoropentanoic acid (PFPeA)	ng/L		48	57	70	70	72	89 J	150	110	190	110	110	100
Perfluorotetradecanoic acid (PFTeDA)	ng/L		20 U	20 U	20 U	2.0 UJ	16 U	5.0 UJ	5.0 U	17 U	10 U	10 U	8.8 U	10 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		20 U	20 U	20 U	2.0 UJ	16 U	5.0 UJ	5.0 U	1.7 U	10 U	10 U	8.8 U	10 U
Perfluoroundecanoic acid (PFUnA)	ng/L		20 U	20 U	20 U	1.3 J	16 U	5.0 UJ	5.0 U	17 U	10 U	10 U	180 U	10 U
Notes: U - Not detected at the associated reporting limit. J - Estimated concentration. UJ - Not detected; associated reporting limit is estimated. JH - Estimated value, biased high. JCI- Estimated concentration, biased high due to chromatographic interference. B - Result detected in associated method blank. CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias. E - Result exceeded calibration range. H - Sample was prepped or analyzed beyond the specified holding time. I - Value is EMPC (estimated maximum possible concentration)														
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Table 2 PFAS Analytical Report Summary - French Drain Groundwater Collection System Former Willow Run Powertrain Ypsilanti, MI																
Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		MH-102	MH-102	MH-102	MH-102	MH-102	Sump-1	Sump-1	Sump 1	Sump-1	Sump-1	Sump-1	Sump-2	Sump-2	
Sample Identification			W-11223073-102221- AM-020	W-11223073-061622- DA-024	W-17358-101920-DR- 002	W-11223073-041621- AM-007	W-11223073-081921- AM-015	W-017358-0511118- DA-009	W-17358-070918-DB- 003	W-17358-070918-DB- 001	W-17358-061520-DB- 001	W-17358-071420-AM- 005	W-11223073-102121- AM-001	W-017358-0511118- DA-010	W-17358-070918-DB- 004	
Sample Date			10/22/2021	06/16/2022	10/19/2020	04/16/2021	08/19/2021	05/11/2018	07/09/2018	07/09/2018	07/09/2018	06/15/2020	07/14/2020	10/21/2021	05/11/2018	07/09/2018
Analytic Method			ASTMD7979-17M	ASTMD7979-17M	E537	ASTMD7979-17M	ASTMD7979-17M	E537	E537	E537	E537	E537	E537	ASTMD7979-17M	E537	E537
Parameters	Units															
Per/Polyfluoroalkyl Substances (PFAS)																
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	18 U	--	--	--	--	--	--	38 U	38 U	--	--	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		1.9 U	2.0 U	--	2.0 U	1.9 U	--	--	--	--	--	--	1.9 U	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	--	--	--	--	38 U	38 U	1.9 U	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	18 U	--	--	--	--	--	--	38 U	38 U	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		1.9 U	2.0 U	--	2.0 U	1.9 U	--	--	--	--	--	--	1.9 U	--	--
Fluorotelomer sulfonic acid (4:2)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	21 UJ	850 U	890 U	380 U	380 U	4.0 I	20 U	17 U	17 U
Fluorotelomer sulfonic acid (6:2)	ng/L		44	2.1 I	67	22	6.7	5.0 J	850 U	890 U	120 J	380 U	390	27 J	240 J	240 J
Fluorotelomer sulfonic acid (8:2)	ng/L		3.7 U	2.0 U	18 U	2.0 U	3.9 U	21 UJ	850 U	890 UJ	380 U	380 U	3.8 U	20 UJ	170 UJ	170 UJ
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		9.3 U	9.9 U	36 U	2.0 U	9.7 U	--	--	--	77 U	75 U	9.6 U	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		3.7 U	4.0 U	45 U	3.9 U	3.9 U	21 UJ	850 U	890 U	380 U	380 U	3.8 U	20 U	17 U	17 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		1.9 U	2.0 U	45 U	2.0 U	1.9 U	21 UJ	850 U	890 U	380 U	380 U	1.9 U	20 U	17 U	17 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	9.2	3.0	15 J	4.9	5.1	2.3 J	61 J	27 J	38 U	4.3 J	4.3	4.9	8.9	8.9
Perfluorobutanoic acid (PFBA)	ng/L		47 U	20 U	34 J	29 U	19 U	21	660 JCI	710 JCI	38 U	56 U	130 U	24	320 JCI	320 JCI
Perfluorodecanesulfonic acid (PFDS)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 U	85 U	89 U	38 U	38 U	1.9 U	2.0 U	1.7 U	1.7 U
Perfluorodecanoic acid (PFDA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	1.8 J	0.35 J	0.35 J
Perfluorododecanoic acid (PFDoDA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	2.0 U	1.7 U	1.7 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		4.8	2.6	6.6 J	2.0	2.2	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	2.0 U	1.7 U	1.7 U
Perfluoroheptanoic acid (PFHpA)	ng/L		19	4.6	20	7.4	6.0	4.0 J	25 J	22 J	6.1 J	10 J	9.7	5.2	44	44
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	120	44	190	69	49	5.0 J	85 U	89 U	13 JB	24 JB	39	4.4	41	41
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		19	7.5	--	11	8.9	--	--	--	--	--	8.6	--	--	--
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		96	34	--	56	39	--	--	--	--	--	29	--	--	--
Perfluorohexanoic acid (PFHxA)	ng/L		60	13	79	25	27	13 J	110	120	22 J	38	29	18	240	240
Perfluorononane sulfonate (PFNS)	ng/L		1.9 U	2.0 U	--	2.0 U	1.9 U	--	--	--	--	--	1.9 U	--	--	--
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	18 U	--	--	2.1 UJ	85 U	89 U	38 U	38 U	--	2.0 U	1.7 U	1.7 U
Perfluorononanoic acid (PFNA)	ng/L	30	51 ^c	37 ^c	75 ^c	26	36 ^c	1.4 J	85 U	89 U	38 U	7.5 J	5.1	2.3	5.4	5.4
Perfluorooctane sulfonamide (FOSA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	0.66 J	1.7 U	1.7 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	220 ^c	200 ^c	270 B ^c	100 ^c	130 ^c	5.4 J	85 U	89 U	22 J ^c 24 J ^c 19 ^c 18 ^c 39 ^c					
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		94	75	--	45	52	--	--	--	--	--	10	--	--	--
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		140	120	--	59	77	--	--	--	--	--	9.2	--	--	--
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	19	12	30	12	1.3 J	85 U	89 U	38 U	38 U	6.8	2.5	13	13
Perfluoropentane sulfonic acid (PFPeS)	ng/L		16	4.4	27	7.1	5.8	0.63 J	25 J	89 U	38 U	38 U	4.7	2.0 U	13	13
Perfluoropentanoic acid (PFPeA)	ng/L		69	4.0 U	79	34	39	13 J	190	190	21 J	60	44	32	330	330
Perfluorotetradecanoic acid (PFTeDA)	ng/L		3.7 U	4.0 U	18 U	3.9 U	3.9 U	2.1 UJ	85 U	89 U	38 U	38 U	3.8 U	2.0 U	1.7 U	1.7 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	2.0 U	1.7 U	1.7 U
Perfluoroundecanoic acid (PFUnA)	ng/L		1.9 U	2.0 U	18 U	2.0 U	1.9 U	2.1 UJ	85 U	89 U	38 U	38 U	1.9 U	2.6	1.8 J	1.8 J
Notes: U - Not detected at the associated reporting limit. J - Estimated concentration. UJ - Not detected; associated reporting limit is estimated. JH - Estimated value, biased high. JCI- Estimated concentration, biased high due to chromatographic interference. B - Result detected in associated method blank. CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias. E - Result exceeded calibration range. 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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 2
PFAS Analytical Report Summary - French Drain Groundwater Collection System
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		Sump 2	Sump-2	Sump-2	Sump-2	Sump-2	Sump-2	Sump-3	Sump-3	Sump 3	Sump-3	Sump-3	Sump-3
Sample Identification			W-17358-070918-DB-002	W-17358-070918-DB-004	W-17358-070918-DB-004	W-17358-061520-DB-002	W-17358-071420-AM-006	W-11223073-102121-AM-002	W-017358-051118-DA-014	W-17358-070918-DB-007	W-17358-070918-DB-005	W-17358-061520-DB-003	W-17358-071420-AM-007	W-11223073-102121-AM-003
Sample Date	Groundwater	Water	07/09/2018	07/09/2018	07/09/2018	06/15/2020	07/14/2020	10/21/2021	05/11/2018	07/09/2018	07/09/2018	06/15/2020	07/14/2020	10/21/2021
Analytic Method	Surface Water Interface	Solubility	E537	E537 TOP	E537 TOP	E537	E537	ASTMD7979-17M	E537	E537	E537	E537	E537	ASTMD7979-17M
Parameters	Units													
Per/Polyfluoroalkyl Substances (PFAS)														
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	19 U	9.1 U	--	--	--	--	18 U	1.8 U	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	--	--	--	2.0 U	--	--	--	--	--	2.0 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		--	--	--	19 U	9.1 U	2.0 U	--	--	--	18 U	1.8 U	2.0 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	19 U	9.1 U	--	--	--	--	18 U	1.8 U	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	--	--	--	--	2.0 U	--	--	--	--	--	2.0 U
Fluorotelomer sulfonic acid (4:2)	ng/L		17 U	--	--	190 U	91 U	2.0 U	21 U	960 U	17 U	180 U	18 U	2.0 U
Fluorotelomer sulfonic acid (6:2)	ng/L		250	220	50 U	40 J	390	220	21 UJ	960 U	170 U	22 J	27	42
Fluorotelomer sulfonic acid (8:2)	ng/L		170 UJ	50 U	50 U	190 U	91 U	3.9 U	21 UJ	960 UJ	170 UJ	180 U	18 U	3.9 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		--	--	--	39 U	18 U	9.8 U	--	--	--	35 U	3.7 U	9.9 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		17 U	50 U	50 U	190 U	91 U	3.9 U	21 U	960 U	17 U	180 U	18 U	3.9 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		17 U	50 U	50 U	190 U	91 U	2.0 U	21 U	960 U	17 U	180 U	18 U	2.0 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	8.4	12	11	10 J	13 U	9.3	5.5	35 J	14	18 U	26	10
Perfluorobutanoic acid (PFBA)	ng/L		130 JCI	160	170 J	46	81	98 U	27 JCI	390 JCI	340 JCI	14 J	9.2 U	30 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		17 U	5.0 U	5.0 U	19 U	9.1 U	2.0 U	2.1 U	96 U	1.7 U	18 U	1.8 U	2.0 U
Perfluorodecanoic acid (PFDA)	ng/L		1.7 U	5.0 U	5.0 U	19 U	9.1 U	2.0 U	0.32 J	96 U	0.29 J	18 U	1.8 U	2.0 U
Perfluorododecanoic acid (PFDoDA)	ng/L		1.7 U	5.0 U	5.0 U	19 U	9.1 U	2.0 U	2.1 U	96 U	1.7 U	18 U	1.8 U	2.0 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		17 U	5.0 U	5.0 U	19 U	3.2 J	2.0 U	4.1	96 U	14	18 U	14	7.1
Perfluoroheptanoic acid (PFHpA)	ng/L		29	32	39	20	60	58	4.6	22 J	12	6.7 J	12	6.7
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	33	38	33	77 B	76 B	69	74	96 U	200	35 B	300 B ^c	170
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	--	--	--	--	17	--	--	--	--	--	24
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	--	--	--	--	51	--	--	--	--	--	140
Perfluorohexanoic acid (PFHxA)	ng/L		190	230	290	94	200	160	16	120	45	14 J	52	30
Perfluorononane sulfonate (PFNS)	ng/L		--	--	--	--	--	2.0 U	--	--	--	--	--	2.0 U
Perfluorononane sulfonic acid (PFNS)	ng/L		1.7 U	--	--	19 U	9.1 U	--	2.1 U	96 U	1.7 U	18 U	1.8 U	--
Perfluorononanoic acid (PFNA)	ng/L	30	4.4	5.5	5.0 U	11 J	9.8	6.6	49 ^c	96 U	140 ^c	25	99 ^c	110 ^c
Perfluorooctane sulfonamide (FOSA)	ng/L		1.7 U	40 UJ	40 U	19 U	9.1 U	2.0 U	0.41 J	96 U	1.7 U	18 U	0.99 JB	2.0 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	37 U	33 ^c	18 ^c	42 ^c	46 ^c	40 ^c	200 ^c	96 U	630 ^c	160 ^c	450 ^c	480 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	--	--	--	--	16	--	--	--	--	--	190
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	--	--	--	--	24	--	--	--	--	--	290
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	6.6	10	9.1	12 J	21	15	96 U	42	21	41	32
Perfluoropentane sulfonic acid (PFPeS)	ng/L		12	--	--	12 J	12	10.0	7.3	96 U	29	4.6 J	34	15
Perfluoropentanoic acid (PFPeA)	ng/L		170	330	430	110	230	250	2.1 U	170	1.7 U	18 U	7.8	7.6
Perfluorotetradecanoic acid (PFTeDA)	ng/L		1.7 U	5.0 U	5.0 U	19 U	9.1 U	3.9 U	2.1 U	96 U	1.7 U	18 U	1.8 U	3.9 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		1.7 U	5.0 U	5.0 U	19 U	9.1 U	2.0 U	2.1 U	96 U	1.7 U	18 U	1.8 U	2.0 U
Perfluoroundecanoic acid (PFUnA)	ng/L		1.7 J	5.0 U	5.0 U	19 U	9.1 U	2.0 U	2.1 U	96 U	0.95 J	18 U	1.8 U	2.0 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 2
PFAS Analytical Report Summary - French Drain Groundwater Collection System
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		Sump-4	Sump-4	Sump 4	Sump-4	Sump-4	Sump-4	Sump-4	Sump-4
Sample Identification			W-017358-051118-DA-013	W-17358-070918-DB-008	W-17358-070918-DB-006	W-17358-070918-DB-008 Pre Oxidation	W-17358-070918-DB-008 Post Oxidation	W-17358-061520-DB-004	W-17358-071420-AM-008	W-11223073-102121-AM-004
Sample Date			05/11/2018	07/09/2018	07/09/2018	07/09/2018	07/09/2018	06/15/2020	07/14/2020	10/21/2021
Analytic Method			E537	E537	E537	E537 TOP	E537 TOP	E537	E537	ASTMD7979-17M
Parameters	Units									
Per/Polyfluoroalkyl Substances (PFAS)										
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	19 U	1.7 U	--
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	2.0 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		--	--	--	--	--	19 U	1.7 U	2.0 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	19 U	1.7 U	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	2.0 U
Fluorotelomer sulfonic acid (4:2)	ng/L		20 U	17 U	17 U	--	--	190 U	17 U	2.0 U
Fluorotelomer sulfonic acid (6:2)	ng/L		20 UJ	170 U	170 U	50 U	50 U	150 J	78	49
Fluorotelomer sulfonic acid (8:2)	ng/L		20 UJ	170 U	170 U	50 U	50 U	190 U	17 U	4.0 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		--	--	--	--	--	38 U	3.5 U	9.9 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		20 U	17 U	17 U	50 U	50 U	190 U	17 U	4.0 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		20 U	17 U	17 U	50 U	50 U	190 U	17 U	2.0 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	2.5	13	13	16	17	19	14	11
Perfluorobutanoic acid (PFBA)	ng/L		11	260 JCI	360 JCI	180	110 J	41	28	50 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		0.38 J	1.7 U	1.7 U	5.0 U	5.0 U	19 U	1.7 U	2.0 U
Perfluorodecanoic acid (PFDA)	ng/L		1.1 J	0.59 J	0.52 J	5.0 U	5.0 U	19 U	1.7 U	2.0 U
Perfluorododecanoic acid (PFDoDA)	ng/L		0.57 J	1.7 U	1.7 U	5.0 U	5.0 U	19 U	1.7 U	2.0 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		0.79 J	10	9.7	9.0	6.7	7.2 J	7.1	2.8
Perfluoroheptanoic acid (PFHpA)	ng/L		1.9 J	15	16	12	16	20	17	18
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	12	210	210	240 ^c	200	180 B	170 B	130
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		--	--	--	--	--	--	--	26
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		--	--	--	--	--	--	--	100
Perfluorohexanoic acid (PFHxA)	ng/L		5.9	72	75	69	280	85	67	52
Perfluorononane sulfonate (PFNS)	ng/L		--	--	--	--	--	--	--	2.0 U
Perfluorononane sulfonic acid (PFNS)	ng/L		2.0 U	1.7 U	1.7 U	--	--	19 U	1.7 U	--
Perfluorononanoic acid (PFNA)	ng/L	30	15	140 ^c	130 ^c	130 ^c	98 ^c	97 ^c	68 ^c	23
Perfluorooctane sulfonamide (FOSA)	ng/L		0.89 J	1.7 U	1.7 U	40 UJ	40 U	19 U	2.3 B	2.0 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	110 ^c	420 ^c	460 ^c	270 ^c	310 ^c	260 ^c	110 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		--	--	--	--	--	--	--	44
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		--	--	--	--	--	--	--	64
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	3.5	36	40	37	32	26	23
Perfluoropentane sulfonic acid (PFPeS)	ng/L		1.2 J	46	40	--	--	20	21	17
Perfluoropentanoic acid (PFPeA)	ng/L		2.2	57	57	48	110	67	53	65
Perfluorotetradecanoic acid (PFTeDA)	ng/L		2.0 U	1.7 U	1.7 U	5.0 U	5.0 U	19 U	1.7 U	4.0 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		4.6	1.7 U	1.7 U	5.0 U	5.0 U	19 U	1.7 U	2.0 U
Perfluoroundecanoic acid (PFUnA)	ng/L		28	0.99 J	1.7 U	5.0 U	5.0 U	19 U	1.7 U	2.0 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
H - Sample was prepped or analyzed beyond the specified holding time.
I - Value is EMPC (estimated maximum possible concentration)

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Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		BH-321	BH-321	BH-321	BH-321	BH-321
Sample Identification		SO-17358-080218-DB-015	SO-17358-080218-DB-016	SO-17358-080218-DB-017	SO-17358-080218-DB-018	SO-17358-080218-DB-019
Sample Date		08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	--	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.2 U	2.3 U	2.2 U	2.4 U	2.6 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.2 U	2.3 U	2.2 UJ	2.4 U	2.6 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.2 U	2.3 U	2.2 U	2.4 U	2.6 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	--	--	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.2 U	2.3 U	2.2 U	2.4 U	2.6 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.2 U	2.3 U	2.2 U	2.4 U	2.6 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.22 U	0.23 U	0.035 J	0.24 U	0.070 J
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.036 J	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.033 J	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.034 J	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorononanoic acid (PFNA)	ug/kg	0.22 U	0.23 U	0.045 J	0.24 U	0.26 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.55 U	0.57 U	0.55 U	0.59 U	0.65 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.11 J	0.16 J	0.088 J	0.24 U	0.26 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.22 U	0.23 U	0.22 U	0.24 U	0.26 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	--	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	--	--

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
E - Result exceeded calibration range.
I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		BH-1004	BH-1004	BH-1004	BH-1004	BH-1004
Sample Identification		SO-17358-080218-DB-008	SO-17358-080218-DB-009	SO-17358-080218-DB-010	SO-17358-080218-DB-011	SO-17358-080218-DB-012
Sample Date		08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	--	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.1 U	2.3 U	2.3 U	2.5 U	2.4 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.1 U	2.3 U	2.3 U	2.5 U	2.4 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.1 U	2.3 U	2.3 U	2.5 U	2.4 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	--	--	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.1 U	2.3 U	2.3 U	2.5 U	2.4 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.1 U	2.3 U	2.3 U	2.5 U	2.4 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.050 J	0.048 J	0.055 J	0.063 J	0.049 J
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.037 J	0.042 J	0.068 J	0.24 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.23 U	0.23 U	0.088 J	0.24 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.069 J	0.037 J	0.072 J	0.54	0.19 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.044 J	0.043 J	0.41	0.56
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.54 U	1.1	1.2	11	3.2
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.23 U	0.23 U	0.036 J	0.24 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.099 J	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.23 U	0.23 U	0.25 U	0.24 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.46	0.23 U	0.23 U	0.25 U	0.24 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.16 J	0.28	0.45	0.80	0.14 J
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	--	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		BH-1004	BH-1004	BH-1005	BH-1005	BH-1005
Sample Identification		SO-17358-080218-DB-013	SO-17358-080218-DB-014	SO-17358-080218-DB-001	SO-17358-080218-DB-002	SO-17358-080218-DB-003
Sample Date		08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	--	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.3 U	2.6 U	2.1 U	2.1 U	2.5 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.3 U	2.6 U	2.1 U	2.1 U	2.5 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.3 U	2.6 U	2.1 U	2.1 U	2.5 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	--	--	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.3 U	2.6 U	2.1 U	2.1 U	2.5 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.3 U	2.6 U	2.1 U	2.1 U	2.5 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.043 J	0.057 J	0.044 J	0.21 U	0.25 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.18 J	0.24 J	0.21 U	0.21 U	0.25 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorononanoic acid (PFNA)	ug/kg	0.16 J	0.14 J	0.21 U	0.21 U	0.25 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	2.0	0.52 J	0.53 U	0.51 U	0.63 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	0.23 U	0.26 U	0.21 U	0.21 U	0.25 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 J	0.26 U	0.21 U	0.21 U	0.25 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	--	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	--	--

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
E - Result exceeded calibration range.
I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location	BH-1005	BH-1005	BH-1005	BH-1005	GHD-1232I
Sample Identification	SO-17358-080218-DB-004	SO-17358-080218-DB-005	SO-17358-080218-DB-006	SO-17358-080218-DB-007	SO-17358-110719-CB-001
Sample Date	08/02/2018	08/02/2018	08/02/2018	08/02/2018	11/07/2019
Sample Depth	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS
Sample Type					
Analytic Method	E537	E537	E537	E537	E537
Parameters	Units				
Per/Polyfluoroalkyl Substances (PFAS)					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	0.20 U
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	--	--	--	0.20 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	0.20 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ug/kg	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.1 U	2.6 U	2.5 U	2.4 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.1 U	2.6 U	2.5 U	2.4 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.1 U	2.6 U	2.5 U	2.4 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	--	--	--	0.25 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.1 U	2.6 U	2.5 U	2.4 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.1 U	2.6 U	2.5 U	2.4 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.044 J	0.062 J	0.12 J
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.034 J	0.065 J	0.25 U	0.24 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.21 J	0.64 U	0.62 U	0.60 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.26 U	0.25 U	0.24 U
General Chemistry					
Total Organic Carbon (TOC)	mg/kg	--	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	--

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
E - Result exceeded calibration range.
I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1232I	GHD-1233I	GHD-1233I	GHD-1233I	GHD-1234I
Sample Identification		SO-17358-110719-CB-002	SO-17358-110719-CB-003	SO-17358-110719-CB-004	SO-17358-110719-CB-005	SO-17358-110719-CB-006
Sample Date		11/07/2019	11/07/2019	11/07/2019	11/07/2019	11/07/2019
Sample Depth		(2.5-4.5) ft BGS	(0.5-2) ft BGS	(2-4) ft BGS	(4-5.5) ft BGS	(0.5-2) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	--	--	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.1 U	2.0 U	1.9 U	2.2 U	2.1 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.1 U	2.0 U	1.9 U	2.2 U	2.1 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.1 U	2.0 U	1.9 U	2.2 U	2.1 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.27 U	0.25 U	0.24 U	0.27 U	0.26 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.1 U	2.0 U	1.9 U	2.2 U	2.1 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.1 U	2.0 U	1.9 U	2.2 U	2.1 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.096 J	0.12 J	0.14 J	0.14 J	0.14 J
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.21 U	0.20 U	0.19 U	0.042 J	0.050 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.20 U	0.19 U	0.077 J	0.21 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.35 J	0.70	0.44 J	0.39 J	0.63
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.20 U	0.19 U	0.094 J	0.21 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.20 U	0.19 U	0.22 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	--	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1234I	GHD-1234I	GHD-1234I	GHD-1235M	GHD-1235M
Sample Identification		SO-17358-110719-CB-007	SO-17358-110719-CB-008	SO-17358-110719-CB-009	S-11223073-112222-AC-073	S-11223073-112222-AC-074
Sample Date		11/07/2019	11/07/2019	11/07/2019	11/22/2022	11/22/2022
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	0.21 U	0.21 U	0.22 U	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	--	--	--	0.22 U	0.20 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	0.21 U	0.21 U	0.22 U	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ug/kg	--	--	--	0.22 U	0.20 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	2.1 U	2.1 U	2.2 U	0.22 U	0.20 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	2.1 U	2.1 U	2.2 U	0.030 J	0.20 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	2.1 U	2.1 U	2.2 U	0.22 U	0.20 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.27 U	0.26 U	0.27 U	0.22 U	0.20 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	2.1 U	2.1 U	2.2 U	0.22 U	0.20 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	2.1 U	2.1 U	2.2 U	0.22 U	0.20 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.11 J	0.12 J	0.12 J	0.22 U	0.20 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.21 U	0.22 U	0.13 J	0.17 J
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.15 J	0.16 J	0.13 J	0.12 J	0.31
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.21 U	0.22 U	0.10 J	0.096 J
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.67	0.36 J	0.54	0.44	0.20 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.11 J	0.21 U	0.17 J	0.25	0.26
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.21 U	0.22 U	0.17 J	0.11 J
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.21 U	0.22 U	0.22 U	0.20 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	--	--	3700	800
Cationic Exchange Capacity (CEC)	meq/100mg	--	--	--	14	1.8

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1235M	GHD-1235M	GHD-1235M	GHD-1235M	GHD-1235M
Sample Identification		S-11223073-112222-AC-075	S-11223073-112222-AC-076	S-11223073-112222-AC-077	S-11223073-112222-AC-078	S-11223073-112222-AC-079
Sample Date		11/22/2022	11/22/2022	11/22/2022	11/22/2022	11/22/2022
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.44	0.45	0.22 U	0.22 U	0.23 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.20 J	0.047 J	0.22 U	0.22 U	0.23 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.49	0.19 J	0.040 J	0.22 U	0.23 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.23	0.066 J	0.22 U	0.22 U	0.23 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorononanoic acid (PFNA)	ug/kg	0.044 J	0.038 J	0.22 U	0.22 U	0.23 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.090 J	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.25	0.22 U	0.22 U	0.22 U	0.23 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.051 J	0.22 U	0.22 U	0.22 U	0.23 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.17 J	0.054 J	0.22 U	0.22 U	0.23 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.23 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	1500	4000	1500	5000	960
Cationic Exchange Capacity (CEC)	meq/100mg	1.7	1.1	1.1	1.4	8.3

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1236M	GHD-1236M	GHD-1236M	GHD-1236M	GHD-1236M
Sample Identification		S-11223073-112122-AC-066	S-11223073-112122-AC-067	S-11223073-112122-AC-068	S-11223073-112122-AC-069	S-11223073-112122-AC-070
Sample Date		11/21/2022	11/21/2022	11/21/2022	11/21/2022	11/21/2022
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.21 U	0.21 U	0.036 J	0.24 U	0.22 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.059 J	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.23	0.29	0.12 J	0.24 U	0.22 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21	0.098 J	0.046 JI	0.24 U	0.22 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.21 U	0.096 J	0.056 J	0.24 U	0.22 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.26	0.12 J	0.047 J	0.24 U	0.22 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.21 U	0.22 U	0.24 U	0.22 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	3300	2800	4300	1600	940
Cationic Exchange Capacity (CEC)	meq/100mg	5.7	2.9	1.5	1.2	0.94

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
E - Result exceeded calibration range.
I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1236M	GHD-1236M	GHD-1237M	GHD-1237M	GHD-1237M
Sample Identification		S-11223073-112122-AC-071	S-11223073-112122-AC-072	S-11223073-112122-AC-056	S-11223073-112122-AC-057	S-11223073-112122-AC-058
Sample Date		11/21/2022	11/21/2022	11/21/2022	11/21/2022	11/21/2022
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.21 U	0.25 U	0.19 J	0.062 J	0.049 J
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.25 U	0.22 U	0.050 J	0.066 J
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.25 U	0.063 J	0.20 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.25 U	0.43	0.39	0.31
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.25 U	0.15 J	0.083 J	0.071 J
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.21 U	0.25 U	0.54	3.1	4.1
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.25 U	0.22	0.11 J	0.075 J
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.25 U	4.9	2.0	3.4
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.21 U	0.25 U	15	20 E	8.2
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.25 U	0.17 J	0.28	0.23
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.25 U	0.22 U	0.18 J	0.23
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.25 U	0.46	0.095 J	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.25 U	0.22 U	0.20 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.25 U	0.036 J	0.20 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.25 U	0.14 J	0.20 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	980	3800	4400	2600	1800
Cationic Exchange Capacity (CEC)	meq/100mg	6.1	15	9.1	2	1.5

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1237M	GHD-1237M	GHD-1237M	GHD-1237M	GHD-1237M
Sample Identification		S-11223073-112122-AC-059	S-11223073-112122-AC-060	S-11223073-112122-AC-061	S-11223073-112122-AC-062	S-11223073-112122-AC-063
Sample Date		11/21/2022	11/21/2022	11/21/2022	11/21/2022	11/21/2022
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.034 J	0.084 J	0.22 U	0.22 U	0.24 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	1.1	0.45	0.40	0.32	0.24 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.058 J	0.063 J	0.22 U	0.22 U	0.24 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorononanoic acid (PFNA)	ug/kg	0.41	0.18 J	0.22 U	0.22 U	0.24 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.76	0.77	0.22 U	0.22 U	0.10 J
Perfluorooctanoic acid (PFOA)	ug/kg	0.081 J	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.095 J	0.075 J	0.068 J	0.058 J	0.24 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.046 J	0.22 U	0.22 U	0.24 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.22 U	0.22 U	0.22 U	0.24 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	3800	23000	4600	6200	5500
Cationic Exchange Capacity (CEC)	meq/100mg	1.7	16	4.5	12	14

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1237M	GHD-1237M	GHD-1238M	GHD-1238M	GHD-1238M
Sample Identification		S-11223073-112122-AC-064	S-11223073-112122-AC-065	S-11223073-111822-AC-046	S-11223073-111822-AC-047	S-11223073-111822-AC-048
Sample Date		11/21/2022	11/21/2022	11/18/2022	11/18/2022	11/18/2022
Sample Depth		(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.24 U	0.23 U	0.22	0.20 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.24 U	0.23 U	0.43	0.20 U	0.21 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.24 U	0.23 U	0.21 U	0.069 J	0.28
Perfluorohexanoic acid (PFHxA)	ug/kg	0.24 U	0.23 U	0.50	0.20	0.052 J
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.24 U	0.23 U	0.061 J	0.20 U	0.21 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.24 U	0.23 U	0.49 U	0.20 U	0.097 JI
Perfluorooctanoic acid (PFOA)	ug/kg	0.24 U	0.23 U	0.76	0.20 U	0.21 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.24 U	0.23 U	1.0	0.13 J	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.24 U	0.23 U	0.21 U	0.20 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	15000	4800	6100	1400	1200
Cationic Exchange Capacity (CEC)	meq/100mg	11	17	14	2.6	1.5

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1238M	GHD-1238M	GHD-1238M	GHD-1238M	GHD-1238M
Sample Identification		S-11223073-111822-AC-049	S-11223073-111822-AC-050	S-11223073-111822-AC-051	S-11223073-111822-AC-052	S-11223073-111822-AC-053
Sample Date		11/18/2022	11/18/2022	11/18/2022	11/18/2022	11/18/2022
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.096 J	0.21 U	0.036 J	0.077 J	0.053 J
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.64	0.084 J	0.15 J	0.28	0.20 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.043 J	0.21 U	0.22 U	0.23 U	0.040 J
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.16 J	0.036 J	0.035 J	0.23 U	0.21 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.83	0.097 J	0.11 J	0.23 U	0.046 J
Perfluorooctanoic acid (PFOA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	6800	3900	1300	2200	950
Cationic Exchange Capacity (CEC)	meq/100mg	1.4	1.3	5.5	1.1	1.2

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1238M	GHD-1238M	GHD-1239M	GHD-1239M	GHD-1239M
Sample Identification		S-11223073-111822-AC-054	S-11223073-111822-AC-055	S-11223073-111822-AC-039	S-11223073-111822-AC-040	S-11223073-111822-AC-041
Sample Date		11/18/2022	11/18/2022	11/18/2022	11/18/2022	11/18/2022
Sample Depth		(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.031 J	0.23 U	0.036 J	0.20 U	4.9
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.23 U	0.23 U	0.054 J	0.20 U	0.22
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.11 J	0.23 U	0.21 U	0.062 J	0.095 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.039 J	0.23 U	0.22	0.059 J	0.24
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.23 U	0.23 U	0.043 J	0.20 U	0.023 J
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.23 U	0.23 U	0.23 I	0.20 U	0.081 J
Perfluorooctanoic acid (PFOA)	ug/kg	0.23 U	0.23 U	0.10 J	0.20 U	0.30
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.23 U	0.23 U	0.12 J	0.20 U	0.13 J
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.23 U	0.23 U	0.21 U	0.20 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	1700	2600	1200	1500	1400
Cationic Exchange Capacity (CEC)	meq/100mg	6.4	6.2	11	2.8	1.1

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1239M	GHD-1239M	GHD-1239M	GHD-1239M	GHD-1240M
Sample Identification		S-11223073-111822-AC-042	S-11223073-111822-AC-043	S-11223073-111822-AC-044	S-11223073-111822-AC-045	S-11223073-111722-AC-029
Sample Date		11/18/2022	11/18/2022	11/18/2022	11/18/2022	11/17/2022
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	9.0	0.24 U	0.22 U	0.24 U	0.20 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.035 J	0.24 U	0.22 U	0.24 U	0.20 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.055 J	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.94
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.38	0.24 U	0.22 U	0.24 U	0.050 JI
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.12 J	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.37	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorononanoic acid (PFNA)	ug/kg	0.025 J	0.24 U	0.22 U	0.24 U	1.7
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.060 JI	0.24 U	0.22 U	0.24 U	1.7
Perfluorooctanoic acid (PFOA)	ug/kg	0.52	0.24 U	0.22 U	0.24 U	0.76
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.18 J	0.067 J	0.22 U	0.24 U	0.20 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.20 U	0.24 U	0.22 U	0.24 U	0.20 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	3100	650	750	7600	1100
Cationic Exchange Capacity (CEC)	meq/100mg	3.3	1.8	0.94	25	2.4

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1240M	GHD-1240M	GHD-1240M	GHD-1240M	GHD-1240M
Sample Identification		S-11223073-111722-AC-030	S-11223073-111722-AC-031	S-11223073-111722-AC-032	S-11223073-111722-AC-033	S-11223073-111722-AC-034
Sample Date		11/17/2022	11/17/2022	11/17/2022	11/17/2022	11/17/2022
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.19 U	0.082 J	0.052 J	0.22 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.14 J	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.19 U	0.055 J	0.12 J	0.18 J	0.21 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.030 J	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.11 J	0.28	0.31	0.078 J	0.21 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.46	1.0	1.6	0.44	0.21 U
Perfluorooctanoic acid (PFOA)	ug/kg	1.9	0.15 J	0.12 J	0.22 U	0.21 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.19 U	0.23 U	0.22 U	0.22 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	1800	1400	950	930	2200
Cationic Exchange Capacity (CEC)	meq/100mg	1.6	5	1.1	1.2	1

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1240M	GHD-1240M	GHD-1240M	GHD-1240M	GHD-1241M
Sample Identification		S-11223073-111722-AC-035	S-11223073-111722-AC-036	S-11223073-111722-AC-037	S-11223073-111722-AC-038	S-11223073-111522-AC-008
Sample Date		11/17/2022	11/17/2022	11/17/2022	11/17/2022	11/15/2022
Sample Depth		(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.042 JI	0.22 U	0.23 U	0.21 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.035 JI	0.22 U	0.23 U	0.21 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.21 U	0.23	0.22 U	0.23 U	0.62
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.23 U	0.22 U	0.23 U	0.21 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	3000	2000	1300	10000	1600
Cationic Exchange Capacity (CEC)	meq/100mg	1.1	1.2	0.94	13	6.2

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1241M	GHD-1241M	GHD-1241M	GHD-1241M	GHD-1241M
Sample Identification		S-11223073-111522-AC-009	S-11223073-111522-AC-010	S-11223073-111522-AC-011	S-11223073-111522-AC-012	S-11223073-111522-AC-013
Sample Date		11/15/2022	11/15/2022	11/15/2022	11/15/2022	11/15/2022
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Sample Type						
Analytic Method						
Parameters	Units	E537	E537	E537	E537	E537
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.030 J	0.049 J	0.067 J	0.22 U	0.22 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorononanoic acid (PFNA)	ug/kg	0.032 J	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.64	0.18 J	0.14 J	0.22 U	0.22 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.20 U	0.22 U	0.21 U	0.22 U	0.22 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	2400	3800	3600	1300	1400
Cationic Exchange Capacity (CEC)	meq/100mg	2.9	6	4.2	1.5	1.6

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1242M	GHD-1242M	GHD-1242M	GHD-1242M	GHD-1242M
Sample Identification		S-11223073-111522-AC-001	S-11223073-111522-AC-002	S-11223073-111522-AC-003	S-11223073-111522-AC-004	S-11223073-111522-AC-005
Sample Date		11/15/2022	11/15/2022	11/15/2022	11/15/2022	11/15/2022
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.058 J	0.11 J	0.11 J	0.10 J	0.13 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorononanoic acid (PFNA)	ug/kg	0.21 U	0.047 J	0.026 J	0.036 J	0.20 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.21 U	2.5	0.33	0.38	0.22
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.21 U	0.20 U	0.21 U	0.21 U	0.20 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	--	1000	9200	1700	4400
Cationic Exchange Capacity (CEC)	meq/100mg	--	4.2	2.5	2.1	5.2

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1242M	GHD-1242M	GHD-1243M	GHD-1243M	GHD-1243M
Sample Identification		S-11223073-111522-AC-006	S-11223073-111522-AC-007	S-11223073-111622-AC-014	S-11223073-111622-AC-015	S-11223073-111622-AC-016
Sample Date		11/15/2022	11/15/2022	11/16/2022	11/16/2022	11/16/2022
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.23
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.22 U	0.23 U	0.049 J	0.078 J	0.099 J
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.056 J	0.23 U	0.067 J	0.13 J	0.17 J
Perfluorohexanoic acid (PFHxA)	ug/kg	0.22 U	0.23 U	0.037 J	0.065 J	0.25
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorononanoic acid (PFNA)	ug/kg	0.22 U	0.23 U	0.11 J	0.21 U	0.19 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.074 J	0.23 U	0.40 I	0.21 U	0.19 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.22 U	0.23 U	0.13 J	0.18 J	0.051 J
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.22 U	0.23 U	0.042 J	0.046 J	0.27
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.22 U	0.23 U	0.19 U	0.21 U	0.19 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	13000	4200	12000	2300	2200
Cationic Exchange Capacity (CEC)	meq/100mg	12	15	4.4	4.9	3.5

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1243M	GHD-1243M	GHD-1243M	GHD-1243M	GHD-1243M
Sample Identification		S-11223073-111622-AC-017	S-11223073-111622-AC-018	S-11223073-111622-AC-019	S-11223073-111622-AC-020	S-11223073-111622-AC-021
Sample Date		11/16/2022	11/16/2022	11/16/2022	11/16/2022	11/16/2022
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(12-14) ft BGS
Sample Type						Duplicate
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.24 U	0.059 J	0.085 J	0.24 U	0.24 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	0.31	1.4	0.54	0.24 U	0.24 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.24 U	0.052 J	0.10 J	0.24 U	0.24 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorononanoic acid (PFNA)	ug/kg	0.24 U	0.67	0.14 J	0.24 U	0.24 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	0.24 U	0.35	0.14 J	0.24 U	0.24 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.24 U	0.19 J	0.083 J	0.24 U	0.24 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.24 U	0.16 J	0.14 J	0.24 U	0.24 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.24 U	0.22 U	0.25 U	0.24 U	0.24 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	810	770	5900	7900	12000
Cationic Exchange Capacity (CEC)	meq/100mg	2.1	1.1	16	21	21

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1244M	GHD-1244M	GHD-1244M	GHD-1244M	GHD-1244M
Sample Identification		S-11223073-111622-AC-022	S-11223073-111622-AC-023	S-11223073-111622-AC-024	S-11223073-111622-AC-025	S-11223073-111622-AC-026
Sample Date		11/16/2022	11/16/2022	11/16/2022	11/16/2022	11/16/2022
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.045 J	0.21 U	0.22 U	0.22 U	0.22 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.044 J	0.21 U	0.066 J	0.22 U	0.22 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.32	0.21 U	0.068 J	0.22 U	0.22 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.17 J	0.21 U	0.054 J	0.22 U	0.22 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	6.3	7.8	1.8	0.15 J	0.17 J
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.046 J	0.21 U	0.070 J	0.22 U	0.22 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	5.1	1.7	4.1	2.4	1.3
Perfluorohexanoic acid (PFHxA)	ug/kg	0.24	0.35	0.22	0.052 J	0.057 J
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.14 JI	0.21 U	0.054 J	0.22 U	0.22 U
Perfluorononanoic acid (PFNA)	ug/kg	12	0.89	4.6	0.35	1.7
Perfluorooctane sulfonamide (FOSA)	ug/kg	16	0.057 J	6.4	0.22 U	0.22 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	300	51	72	1.0	4.5
Perfluorooctanoic acid (PFOA)	ug/kg	1.2	0.39	0.84	0.45	0.18 J
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.062 J	0.21 U	0.24	0.087 J	0.063 J
Perfluoropentanoic acid (PFPeA)	ug/kg	0.066 J	0.046 J	0.045 J	0.22 U	0.22 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.22 U	0.21 U	0.22 U	0.22 U	0.22 U
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	0.079 J	0.21 U	0.028 J	0.22 U	0.22 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	1.4	0.21 U	0.43	0.22 U	0.22 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	8600	940	5100	2000	5200
Cationic Exchange Capacity (CEC)	meq/100mg	19	11	8	1.2	3.3

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 3
PFAS Analytical Results Summary - Soil
Former Willow Run Powertrain
Ypsilanti, Michigan

Sample Location		GHD-1244M	GHD-1244M	PCE Excavation Area	PCE Excavation Area	PCE Excavation Area
Sample Identification		S-11223073-111622-AC-027	S-11223073-111622-AC-028	SO-17358-072318-DB-001	SO-17358-072318-DB-002	SO-17358-072318-DB-003
Sample Date		11/16/2022	11/16/2022	07/23/2018	07/23/2018	07/23/2018
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(3-7) ft BGS	(1-3) ft BGS	(3-5) ft BGS
Sample Type						
Analytic Method		E537	E537	E537	E537	E537
Parameters	Units					
Per/Polyfluoroalkyl Substances (PFAS)						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ug/kg	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ug/kg	0.23 U	0.24 U	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ug/kg	0.23 U	0.24 U	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ug/kg	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ug/kg	0.23 U	0.24 U	--	--	--
Fluorotelomer sulfonic acid (4:2)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Fluorotelomer sulfonic acid (6:2)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Fluorotelomer sulfonic acid (8:2)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ug/kg	0.23 U	0.24 U	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg	0.23 U	0.24 U	3.0 U	3.0 U	2.8 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg	0.23 U	0.24 U	3.0 U	3.0 U	2.8 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg	0.10 J	0.12 J	1.2 U	1.2 U	1.1 U
Perfluorobutanoic acid (PFBA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorodecanoic acid (PFDA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorododecanoic acid (PFDoDA)	ug/kg	0.23 U	0.24 U	1.2 U	0.979 J	1.1 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg	0.18 J	0.24 U	1.2 U	1.2 U	1.1 U
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.058 J	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg	1.8	0.057 J	1.2 U	1.2 U	1.1 U
Perfluorohexanoic acid (PFHxA)	ug/kg	0.13 J	0.18 J	1.2 U	1.2 U	1.1 U
Perfluorononane sulfonic acid (PFNS)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorononanoic acid (PFNA)	ug/kg	3.4	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorooctane sulfonamide (FOSA)	ug/kg	0.062 J	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg	10	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorooctanoic acid (PFOA)	ug/kg	0.21 J	0.24 U	1.2 U	1.2 U	1.1 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg	0.23	0.087 J	1.2 U	1.2 U	1.1 U
Perfluoropentanoic acid (PFPeA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.23 U	0.24 U	1.2 U	1.2 U	1.1 U
General Chemistry						
Total Organic Carbon (TOC)	mg/kg	8100	6100	--	--	--
Cationic Exchange Capacity (CEC)	meq/100mg	18	18	--	--	--

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

E - Result exceeded calibration range.

I - Value is EMPC (estimated maximum possible concentration)

Table 4
PFAS Analytical Report Summary - Storm Sewer
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		MH-862	MH-864	MH-864 NW Inlet	MH-865	MH-865 NW Inlet	MH-865 NW Inlet	Outfall 84	Outfall 84	Outfall 84	East MH-100	East MH-147
Sample Identification			W-17358-013020-DB-006	W-17358-013020-DB-005	W-17358-013020-DB-004	W-17358-013020-DB-003	W-17358-013020-DB-002	W-17358-052120-AM-002	W-17358-121319-DB-002	W-17358-013020-DB-001	W-17358-052120-AM-001	W-17358-051320-AM-008	W-17358-051320-AM-010
Sample Date	Groundwater	Water	01/30/2020	01/30/2020	01/30/2020	01/30/2020	01/30/2020	05/21/2020	12/13/2019	01/30/2020	05/21/2020	05/13/2020	05/13/2020
Analytic Method	Surface Water	Solubility	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M
Location Description			84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	84-Inch Sewer	ESSD	ESSD
Parameters													
Per/Polyfluoroalkyl Substances (PFAS)	Units												
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	--	10 U	9.9 U	--	--	--
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	--	10 U	9.9 U	--	--	--
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	--	10 U	9.9 U	--	--	--
Fluorotelomer sulfonic acid (4:2)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Fluorotelomer sulfonic acid (6:2)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Fluorotelomer sulfonic acid (8:2)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	--	10 U	9.9 U	--	--	--
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorobutanoic acid (PFBA)	ng/L		19 U	20 U	19 U	19 U	20 U	96 U	20 U	20 U	96 U	20 U	19 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorodecanoic acid (PFDA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorododecanoic acid (PFDoDA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluoroheptanoic acid (PFHpA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	9.7 U	10 U	9.7 U	9.6 U	24	25	33	14	62	12	9.6 U
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		9.7 U	10 U	9.7 U	9.6 U	20	19	27	11	50	10.0	9.6 U
Perfluorohexanoic acid (PFHxA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	10	10	10 U	9.9 U	11	17	9.6 U
Perfluorononane sulfonate (PFNS)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	--	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	--	--	--	--	10 U	--	--	--	--
Perfluorononanoic acid (PFNA)	ng/L	30	9.7 U	10 U	9.7 U	9.6 U	12	9.6 U	12	9.9 U	23	9.8 U	9.6 U
Perfluorooctane sulfonamide (FOSA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	9.7 U	10 U	9.7 U	9.6 U	260°	98°	220°	78°	220°	11	9.6 U
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		9.7 U	10 U	9.7 U	9.6 U	91	39	76	28	74	9.8 U	9.6 U
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		9.7 U	10 U	9.7 U	9.6 U	170	58	140	50	140	9.8 U	9.6 U
Perfluorooctanoic acid (PFOA)	ng/L	170	9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	10.0	11	9.6 U
Perfluoropentane sulfonic acid (PFPeS)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluoropentanoic acid (PFPeA)	ng/L		9.7 U	11	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.8	30	9.6 U
Perfluorotetradecanoic acid (PFTeDA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U
Perfluoroundecanoic acid (PFUnA)	ng/L		9.7 U	10 U	9.7 U	9.6 U	9.8 U	9.6 U	10 U	9.9 U	9.6 U	9.8 U	9.6 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 4
PFAS Analytical Report Summary - Storm Sewer
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		MH-80	East MH-90	MH-150	MH-70	MH-80	MH-90 Outlet	N MH-151	NE MH-149	NE MH-150	North MH-90	South MH-100	
Sample Identification	Groundwater	Water	W-17358-121319-DB-001	W-17358-051320-AM-005	W-17358-013020-DB-010	W-17358-051320-AM-003	W-17358-051320-AM-004	W-17358-061120-AM-001	W-17358-051320-AM-013	W-17358-051320-AM-011	W-17358-051320-AM-012	W-17358-051320-AM-006	W-17358-051320-AM-009	
Sample Date	Surface Water	Solubility	12/13/2019	05/13/2020	01/30/2020	05/13/2020	05/13/2020	06/11/2020	05/13/2020	05/13/2020	05/13/2020	05/13/2020	05/13/2020	
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	
Location Description			ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	ESSD	
Parameters														
Per/Polyfluoroalkyl Substances (PFAS)	Units													
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		10 U	--	9.7 U	--	--	--	--	--	--	--	--	
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		10 U	--	9.7 U	--	--	--	--	--	--	--	--	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		10 U	--	9.7 U	--	--	--	--	--	--	--	--	
Fluorotelomer sulfonic acid (4:2)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Fluorotelomer sulfonic acid (6:2)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Fluorotelomer sulfonic acid (8:2)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		10 U	--	9.7 U	--	--	--	--	--	--	--	--	
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorobutanoic acid (PFBA)	ng/L		20 U	20 U	19 U	19 U	19 U	30 U	20 U	20 U	19 U	21 U	19 U	
Perfluorodecanesulfonic acid (PFDS)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorodecanoic acid (PFDA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorododecanoic acid (PFDoDA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluoroheptanoic acid (PFHpA)	ng/L		10 U	10.0 U	9.7 U	11 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	14 U	
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	31	100	9.7 U	130	120	170	9.8 U	10 U	9.7 U	10 U	98	
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		10 U	18	9.7 U	19	17	26	9.8 U	10 U	9.7 U	10 U	15	
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		25	83	9.7 U	110	98	140	9.8 U	10 U	9.7 U	10 U	80	
Perfluorohexanoic acid (PFHxA)	ng/L		10 U	27	9.7 U	27	27	27	9.8 U	10 U	9.7 U	10 U	27	
Perfluorononane sulfonate (PFNS)	ng/L		--	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorononane sulfonic acid (PFNS)	ng/L		10 U	--	--	--	--	--	--	--	--	--	--	
Perfluorononanoic acid (PFNA)	ng/L	30	10 U	54 ^c	9.7 U	68 ^c	68 ^c	88 ^c	9.8 U	10 U	9.7 U	10 U	51 ^c	
Perfluorooctane sulfonamide (FOSA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	29 ^c	470 ^c	9.7 U	620 ^c	610 ^c	750 ^c	9.8 U	10 U	9.7 U	16 ^c	440 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		14	190	9.7 U	230	230	270	9.8 U	10 U	9.7 U	10 U	170	
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		15	280	9.7 U	390	390	480	9.8 U	10 U	9.7 U	11	280	
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	10 U	23	9.7 U	26	26	33	9.8 U	10 U	9.7 U	10 U	23
Perfluoropentane sulfonic acid (PFPeS)	ng/L		10 U	11	9.7 U	13	11	13	9.8 U	10 U	9.7 U	10 U	10	
Perfluoropentanoic acid (PFPeA)	ng/L		10 U	26	9.7 U	23	22	9.9 U	9.8 U	10 U	9.7 U	12	28	
Perfluorotetradecanoic acid (PFTeDA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluorotridecanoic acid (PFTrDA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	
Perfluoroundecanoic acid (PFUnA)	ng/L		10 U	10.0 U	9.7 U	9.5 U	9.7 U	9.9 U	9.8 U	10 U	9.7 U	10 U	9.6 U	

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
H - Sample was prepped or analyzed beyond the specified holding time.
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Table 4
PFAS Analytical Report Summary - Storm Sewer
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		E MH-544	MH-XXX	N MH-559	P-1497	P-1497 Near Surface	P-879	P-879 Near Surface	W MH-533	W MH-559	STMH-A6	STMH-A6	
Sample Identification			W-17358-052120-AM-014	W-17358-052120-AM-018	W-17358-052120-AM-015	W-17358-072718-DB-016	W-17358-072718-DB-015	W-17358-072718-DB-014	W-17358-072718-DB-013	W-17358-052120-AM-017	W-17358-052120-AM-016	W-12602792-231115-LK-026	W-12602792-231115-LK-027	
Sample Date	Groundwater	Water	05/21/2020	05/21/2020	05/21/2020	07/27/2018	07/27/2018	07/27/2018	07/27/2018	05/21/2020	05/21/2020	11/15/2023	11/15/2023	
Analytic Method	Surface Water	Solubility	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	E537	E537	E537	E537	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	
Location Description	c	f	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Historical Sewer	Kirk Profit Drive Sewer	Kirk Profit Drive Sewer	
Parameters														
Per/Polyfluoroalkyl Substances (PFAS)	Units													
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--	--	--	--	--	
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	
Fluorotelomer sulfonic acid (4:2)	ng/L		9.6 U	9.1 U	9.4 U	17 U	31 U	360 U	180 U	9.7 U	9.6 U	2.0 U	2.0 U	
Fluorotelomer sulfonic acid (6:2)	ng/L		9.6 U	9.1 U	9.4 U	17 U	31 U	360 U	180 U	9.7 U	9.6 U	2.0 J	2.0 U	
Fluorotelomer sulfonic acid (8:2)	ng/L		9.6 U	9.1 U	9.4 U	170 U	31 U	360 U	180 U	9.7 U	9.6 U	2.0 U	2.0 U	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		--	--	--	--	--	--	--	--	--	2.0 U	2.0 U	
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		9.6 U	9.1 U	9.4 U	170 U	31 U	360 U	180 U	9.7 U	9.6 U	4.0 U	4.0 U	
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		9.6 U	9.1 U	9.4 U	170 U	31 U	360 U	180 U	9.7 U	9.6 U	2.0 U	2.0 U	
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	9.6 U	9.1 U	9.4 U	5.5	3.1 U	36 U	18 U	9.7 U	9.6 U	89	11	
Perfluorobutanoic acid (PFBA)	ng/L		96 U	91 U	94 U	250 JCI	210 JCI	670	650	97 U	96 U	97 U	6.9 J	
Perfluorodecanesulfonic acid (PFDS)	ng/L		9.6 U	9.1 U	9.4 U	1.7 U	3.1 U	36 U	18 U	9.7 U	9.6 U	3.6	2.0 U	
Perfluorodecanoic acid (PFDA)	ng/L		9.6 U	9.1 U	9.4 U	0.43 J	1.1 J	36 U	18 U	9.7 U	9.6 U	17	2.4	
Perfluorododecanoic acid (PFDoDA)	ng/L		9.6 U	9.1 U	9.4 U	1.7 U	3.1 U	36 U	18 U	9.7 U	9.6 U	2.6	2.0 U	
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		9.6 U	9.1 U	9.4 U	0.50 J	0.35 J	36 U	18 U	9.7 U	9.6 U	150	15	
Perfluoroheptanoic acid (PFHpA)	ng/L		9.6 U	9.1 U	9.4 U	25	17	11 J	3.3 J	9.7 U	9.6 U	32	4.7	
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	9.6 U	9.1 U	9.4 U	14	7.8	36 U	18 U	9.7 U	23	2200 ^c	290 ^c	
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		9.6 U	9.1 U	9.4 U	--	--	--	--	9.7 U	9.6 U	280	37	
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		9.6 U	9.1 U	9.4 U	--	--	--	--	9.7 U	17	1900	260	
Perfluorohexanoic acid (PFHxA)	ng/L		9.6 U	9.1 U	19	51	32	36 U	8.3 J	9.7 U	12	230	30	
Perfluorononane sulfonate (PFNS)	ng/L		9.6 U	9.1 U	9.4 U	--	--	--	--	9.7 U	9.6 U	2.8 U	2.0 U	
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	--	1.7 U	3.1 U	36 U	18 U	--	--	--	--	
Perfluorononanoic acid (PFNA)	ng/L	30	9.6 U	9.1 U	9.4 U	4.3	3.5	21 J	59 ^c	9.7 U	9.6 U	3600 ^c	240 ^c	
Perfluorooctane sulfonamide (FOSA)	ng/L		9.6 U	9.1 U	9.4 U	1.7 U	3.1 U	36 U	18 U	9.7 U	9.6 U	3.2	1.5 J	
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	9.6 U	9.1 U	9.4 U	25 ^c	17 ^c	23 J ^c	22 ^c	19 ^c	39 ^c	13000 ^{cd}	1500 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		9.6 U	9.1 U	9.4 U	--	--	--	--	9.7 U	15	4500	410	
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		9.6 U	9.1 U	9.4 U	--	--	--	--	11	23	9600	1100	
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	9.6 U	9.1 U	9.4 U	49	30	32 J	17 J	9.7 U	9.6 U	200 ^c	26
Perfluoropentane sulfonic acid (PFPeS)	ng/L		9.6 U	9.1 U	9.4 U	2.6	2.0 J	36 U	18 U	9.7 U	9.6 U	170	19	
Perfluoropentanoic acid (PFPeA)	ng/L		9.6 U	9.1 U	15	32	13	36 U	18 U	9.7 U	9.6 U	180	8.4	
Perfluorotetradecanoic acid (PFTeDA)	ng/L		9.6 U	9.1 U	9.4 U	17 U	3.1 U	36 U	18 U	9.7 U	9.6 U	4.0 U	4.0 U	
Perfluorotridecanoic acid (PFTrDA)	ng/L		9.6 U	9.1 U	9.4 U	1.7 U	3.1 U	36 U	18 U	9.7 U	9.6 U	55	2.0 U	
Perfluoroundecanoic acid (PFUnA)	ng/L		9.6 U	9.1 U	9.4 U	1.7 U	3.1 U	36 U	18 U	9.7 U	9.6 U	250	65	

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
H - Sample was prepped or analyzed beyond the specified holding time.
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Table 4
PFAS Analytical Report Summary - Storm Sewer
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)		SW22-01	SW22-02	SW22-03	SW22-03	MH-EX 1	MH-EX 2	MH-EX 3
Sample Identification	Groundwater	Water	W-12602792-231115-LK-025	W-12602792-231115-LK-024	W-12602792-231115-LK-022	W-12602792-231115-LK-023	W-12602792-231115-LK-028	W-12602792-231115-LK-029	W-12602792-231115-LK-030
Sample Date	Surface Water	Solubility	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023
Analytic Method	c	f	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M	ASTMD7979-17M
Location Description			Kirk Profit Drive Sewer	Kirk Profit Drive Sewer	Kirk Profit Drive Sewer	Kirk Profit Drive Sewer	WCAA Sewer	WCAA Sewer	WCAA Sewer
Parameters									
Per/Polyfluoroalkyl Substances (PFAS)	Units								
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	ng/L		--	--	--	--	--	--	--
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate	ng/L		--	--	--	--	--	--	--
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Fluorotelomer sulfonic acid (4:2)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Fluorotelomer sulfonic acid (6:2)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	4.6	19	1.8 J
Fluorotelomer sulfonic acid (8:2)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L		4.0 U	4.2 U	4.1 U	4.0 U	3.9 U	4.0 U	4.1 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000	72	25	22	2.7	3.9	6.4	6.7
Perfluorobutanoic acid (PFBA)	ng/L		42 U	14	11	5.8 J	16 U	24	22
Perfluorodecanesulfonic acid (PFDS)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorodecanoic acid (PFDA)	ng/L		3.9	2.1 U	2.0 U	2.0 U	0.65 J	0.60 J	0.82 J
Perfluorododecanoic acid (PFDoDA)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L		96	9.3	6.5	1.3 J	3.2	4.1	3.8
Perfluoroheptanoic acid (PFHpA)	ng/L		27	7.7	6.4	2.0 J	11	8.9	6.9
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210	1800 ^c	340 ^c	280 ^c	8.3	45	43	36
Perfluorohexane sulfonic acid (PFHxS) - Branched	ng/L		220	58	49	1.8 J	7.5	6.9	5.6
Perfluorohexane sulfonic acid (PFHxS) - Linear	ng/L		1600	280	230	7.4	38	37	32
Perfluorohexanoic acid (PFHxA)	ng/L		150	48	41	4.3	25	77	75
Perfluorononane sulfonate (PFNS)	ng/L		2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorononane sulfonic acid (PFNS)	ng/L		--	--	--	--	--	--	--
Perfluorononanoic acid (PFNA)	ng/L	30	1800 ^c	150 ^c	110 ^c	1.9 J	20	180 ^c	190 ^c
Perfluorooctane sulfonamide (FOSA)	ng/L		1.5 J	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	4200 ^{d,f}	530 ^c	370 ^c	6.1	91 ^c	140 ^c	170 ^c
Perfluorooctane sulfonic acid (PFOS) - Branched	ng/L		1700	190	150	4.3	42	57	62
Perfluorooctane sulfonic acid (PFOS) - Linear	ng/L		2600	340	220	2.5	50	85	110
Perfluorooctanoic acid (PFOA)	ng/L	170	160	28	24	6.2	14	6.4	5.7
Perfluoropentane sulfonic acid (PFPeS)	ng/L		140	41	33	1.7 J	5.4	5.2	4.6
Perfluoropentanoic acid (PFPeA)	ng/L		24	19	17	4.9	36	97	96
Perfluorotetradecanoic acid (PFTeDA)	ng/L		4.0 U	4.2 U	4.1 U	4.0 U	3.9 U	4.0 U	4.1 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		1.3 J	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluoroundecanoic acid (PFUnA)	ng/L		28	5.4	3.9	2.0 U	8.3	6.1	11

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
JH - Estimated value, biased high.
JCI- Estimated concentration, biased high due to chromatographic interference.
B - Result detected in associated method blank.
CI - The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is a reason to suspect there may be a high bias.
E - Result exceeded calibration range.
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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended, updated October 12, 2023

Table 5
PFAS Analytical Results Summary - Surface Water
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location	EGLE Generic Groundwater Cleanup Criteria(1)			SW-24-01	SW-24-02	SW-24-03	SW-24-04
Sample Identification	Groundwater	Water		SW-24-01	SW-24-02	SW-24-03	SW-24-04
Sample Date	Surface Water	Solubility		03/01/2024	03/01/2024	03/01/2024	03/01/2024
Analytic Method	Interface			E1633	E1633	E1633	E1633
Locaiton Description				84-Inch Outfall	60-Inch Outfall	Tyler Dam Drain	Tyler Dam Drain
Parameters	Units	c	f				
Per/Polyfluoroalkyl Substances (PFAS)							
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
2,2,3-Trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-propanoic acid (DONA	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	ng/L			51 U	46 U	44 U	43 U
2H,2H,3H,3H-Perfluorohexanoic acid (3:3 FTCA)	ng/L			10 U	9.3 U	8.8 U	8.7 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ng/L			51 U	46 U	44 U	43 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
Fluorotelomer sulfonic acid (4:2)	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
Fluorotelomer sulfonic acid (6:2)	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
Fluorotelomer sulfonic acid (8:2)	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L			8.2 U	7.4 U	7.0 U	6.9 U
N-Ethyl perfluorooctane sulfonamide (EtFOSE)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
N-Ethyl perfluorooctane sulfonamido ethanol (N-EtFOSE)	ng/L			20 U	19 U	18 U	17 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
N-Methyl perfluorooctane sulfonamido ethanol (MeFOSE)	ng/L			20 U	19 U	18 U	17 U
N-Methyl-perfluorooctane sulfonamide	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ng/L			4.1 U	3.7 U	3.5 U	3.5 U
Perfluoro(2-ethoxyethane) sulfonic acid (PFEEESA)	ng/L			4.1 U	3.7 U	3.5 U	3.5 U
Perfluoro-1-butane sulfonamide (FBSA)	ng/L			8.2 U	13	7.0 U	6.9 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	ng/L			4.1 U	3.7 U	3.5 U	3.5 U
Perfluoro-4-ethylcyclohexane sulfonic Acid (PFechS)	ng/L			4.1 U	13	3.5 U	3.5 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	ng/L			4.1 U	3.7 U	3.5 U	3.5 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	670000		2.1 I	15	7.4	8.2
Perfluorobutanoic acid (PFBA)	ng/L			8.2 U	9.0	7.0 U	6.9 U
Perfluorodecanesulfonic acid (PFDS)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorodecanoic acid (PFDA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorododecane sulfonic acid (PFDoDS)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorododecanoic acid (PFDoDA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L			2.0 U	6.1	1.8 U	1.7 U
Perfluoroheptanoic acid (PFHpA)	ng/L			3.4	5.7	2.1	2.1
Perfluorohexane sulfonamide (PFHxSA)	ng/L			8.2 U	13	7.0 U	6.9 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	210		17	200	22	26
Perfluorohexanoic acid (PFHxA)	ng/L			2.0 U	31	4.7	5.5
Perfluorononane sulfonic acid (PFNS)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorononanoic acid (PFNA)	ng/L	30		6.3	110 ^c	1.8 U	2.7
Perfluorooctane sulfonamide (FOSA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	12	3100	63 ^c	260 ^c	1.8 U	4.8
Perfluorooctanoic acid (PFOA)	ng/L	170	9500000000	8.0	19	3.5	3.9
Perfluoropentane sulfonic acid (PFPeS)	ng/L			2.0 U	21	2.2	2.7
Perfluoropentanoic acid (PFPeA)	ng/L			4.1 U	12	5.3	5.1
Perfluorotetradecanoic acid (PFTeDA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L			2.0 U	1.9 U	1.8 U	1.7 U
Perfluoroundecanoic acid (PFUnA)	ng/L			2.0 U	3.6	1.8 U	1.7 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 and screening levels, administrative rule R 299.44, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451

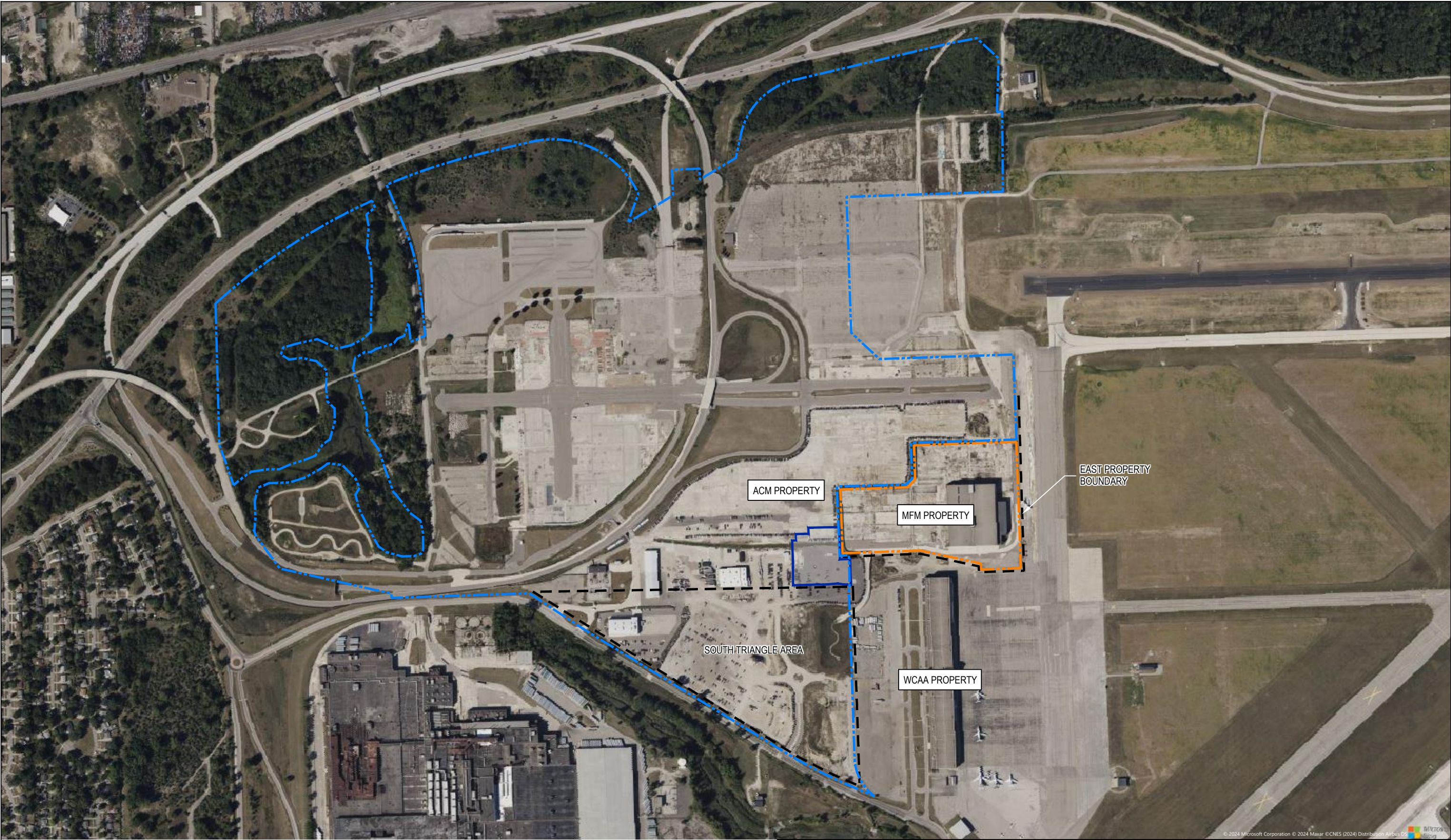
Table 6
PFAS Analytical Report Summary - LNAPL
Former Willow Run Powertrain
Ypsilanti, MI

Sample Location		CRA-092M	CRA-971M	GHD-988M	GHD-1214M
Sample Identification		O-11223073-101422-MR-028	O-11223073-101322-MR-008	O-11223073-101422-MR-021	O-11223073-101322-MR-010
Sample Date		10/14/2022	10/13/2022	10/14/2022	10/13/2022
Analytic Method		E537	E537	E537	E537
Parameters	Units				
Per/Polyfluoroalkyl Substances (PFAS)					
Fluorotelomer sulfonic acid (4:2)	ug/kg (ppb)	400 U	400 U	400 U	400 U
Fluorotelomer sulfonic acid (6:2)	ug/kg (ppb)	400 U	400 U	400 U	400 U
Fluorotelomer sulfonic acid (8:2)	ug/kg (ppb)	400 U	400 U	400 U	400 U
N-Ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSAA)	ug/kg (ppb)	400 U	400 U	400 U	400 U
N-Methyl perfluorooctane sulfonamido acetic acid	ug/kg (ppb)	400 U	400 U	400 U	400 U
Perfluorobutane sulfonic acid (PFBS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorobutanoic acid (PFBA)	ug/kg (ppb)	43	40 U	40 U	46
Perfluorodecanesulfonic acid (PFDS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorodecanoic acid (PFDA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorododecanoic acid (PFDoDA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluoroheptane sulfonic acid (PFHpS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluoroheptanoic acid (PFHpA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorohexane sulfonic acid (PFHxS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorohexanoic acid (PFHxA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorononane sulfonic acid (PFNS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorononanoic acid (PFNA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorooctane sulfonamide (FOSA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorooctane sulfonic acid (PFOS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorooctanoic acid (PFOA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluoropentane sulfonic acid (PFPeS)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluoropentanoic acid (PFPeA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorotetradecanoic acid (PFTeDA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluorotridecanoic acid (PFTriDA)	ug/kg (ppb)	40 U	40 U	40 U	40 U
Perfluoroundecanoic acid (PFUnA)	ug/kg (ppb)	40 U	40 U	40 U	40 U

Notes:

U - Not detected at the associated reporting limit.

Figures



LEGEND

- AMERICAN CENTER FOR MOBILITY PROPERTY
- MICHIGAN FLIGHT MUSEUM PROPERTY
- REGIONS REFERENCED IN TEXT
- PCE RESTRICTION AREA

0 300 600 ft

1" = 600 ft

Coordinate System: MI83-SIF

N

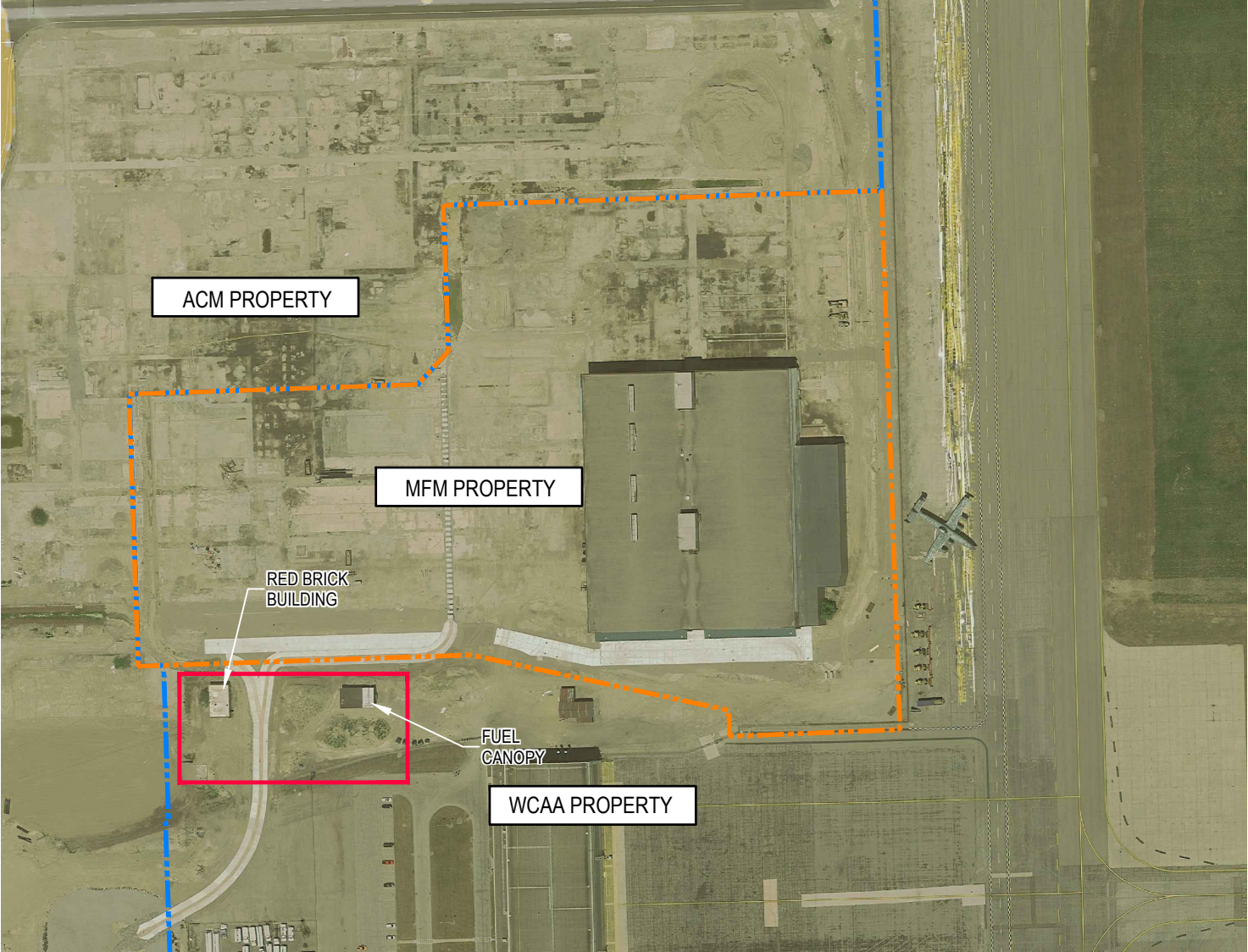
RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PROPERTY BOUNDARIES
AND SITE AREAS

Project No. **12602792**
Date **March 2025**

FIGURE 1

WILLOW RUN SITE - JULY 2018



Source: Image ©2024 Google (Imagery Date 7/2018)

WILLOW RUN SITE - MARCH 2024

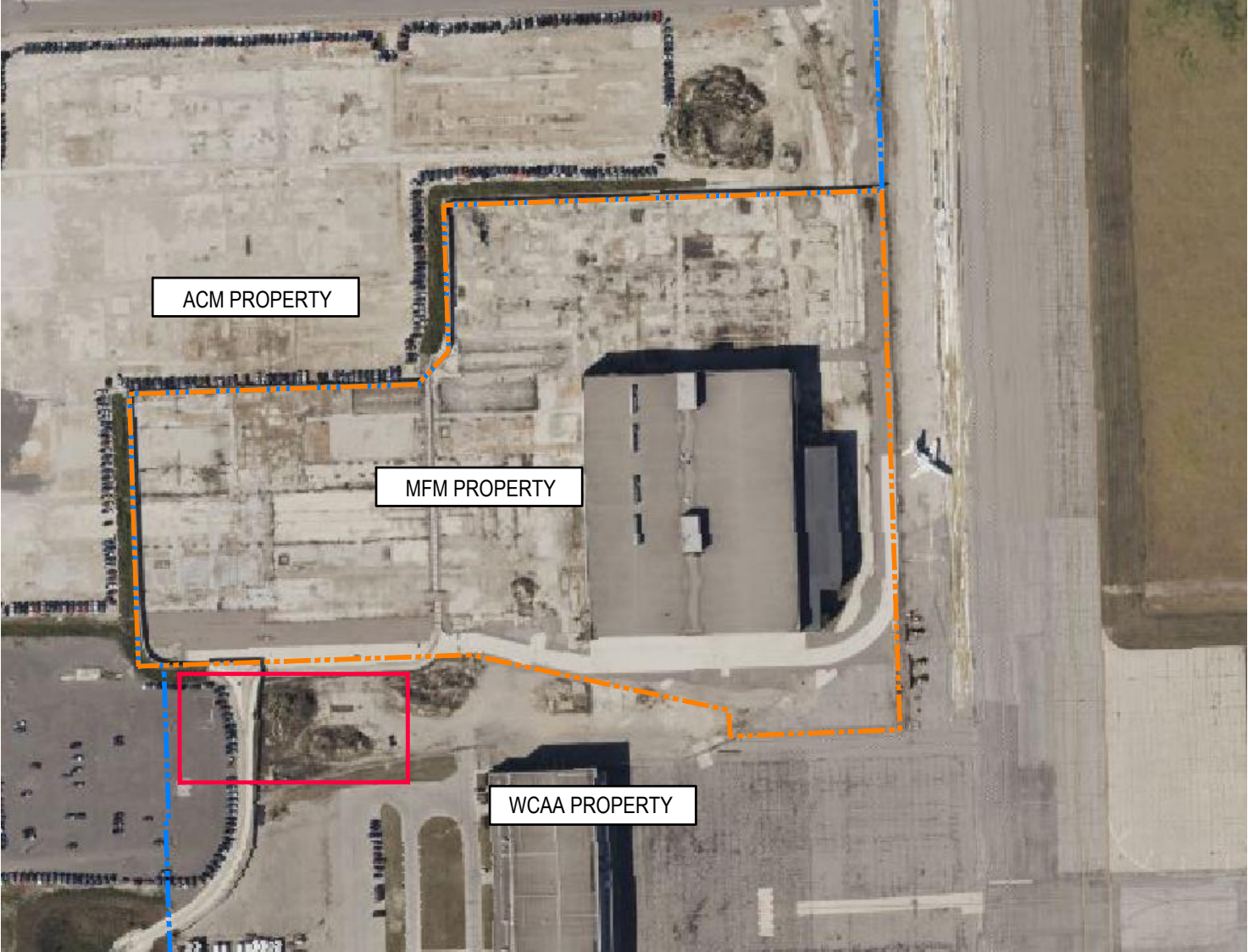
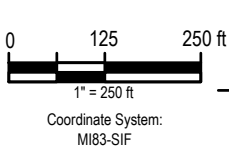


Image Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Accessed: 2024

LEGEND

- AMERICAN CENTER FOR MOBILITY PROPERTY
- MICHIGAN FLIGHT MUSEUM PROPERTY
- FORMER TANK FARM AREA

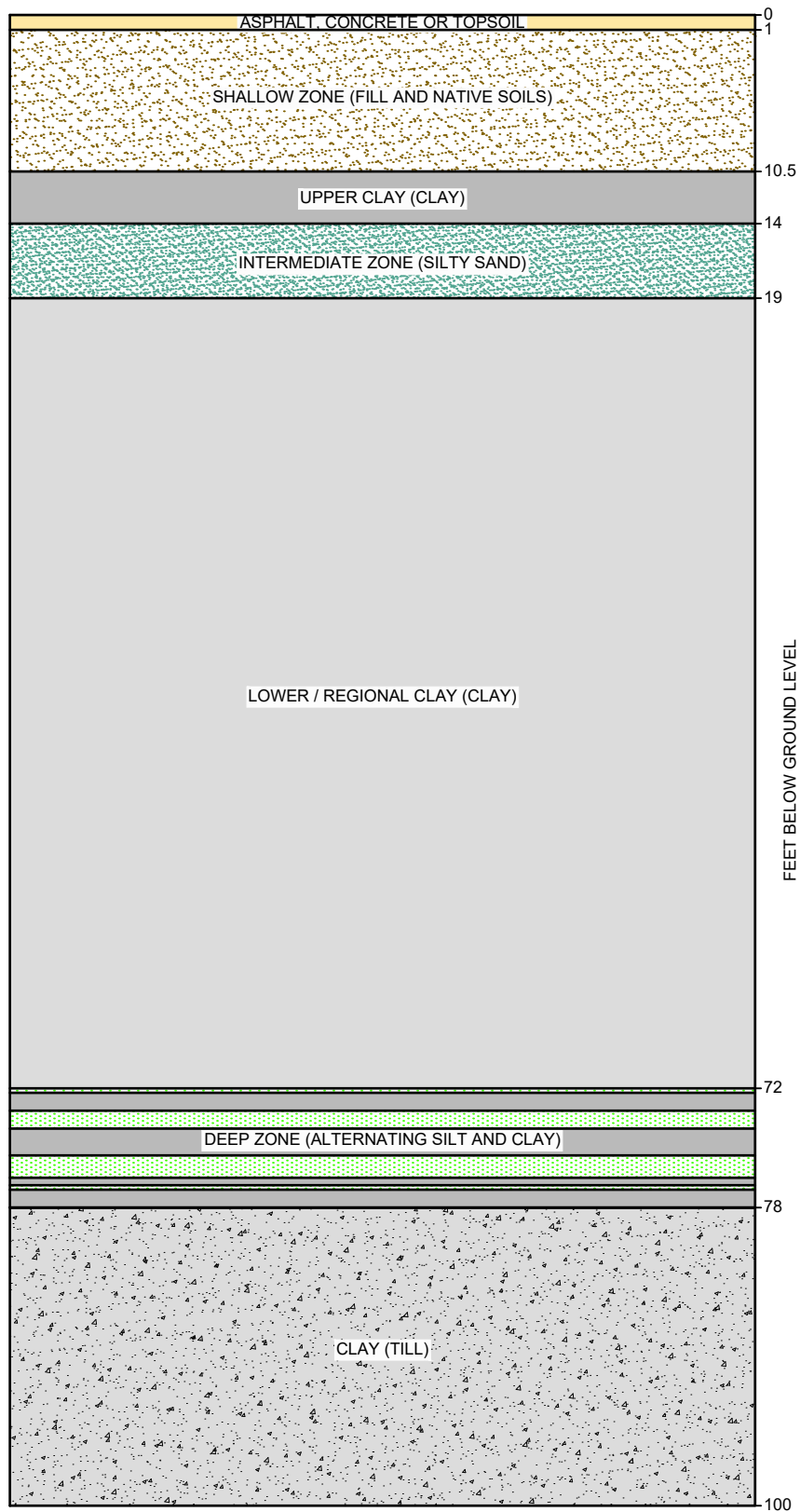


FORMER WILLOW RUN POWERTRAIN PLANT
YPSILANTI, MICHIGAN

Project No. 12602792
Date March 2025

FORMER TANK FARM AREA

FIGURE 2

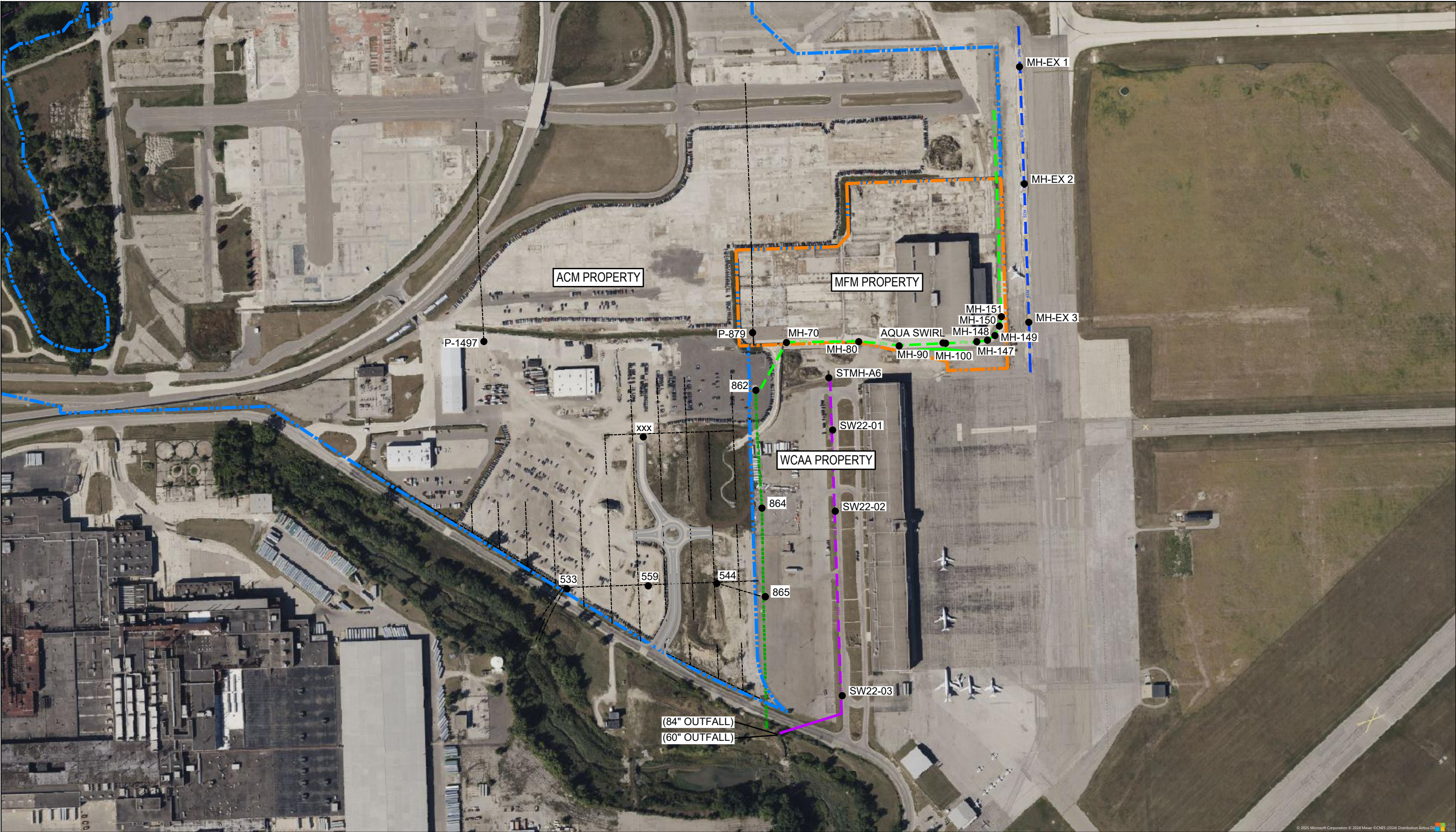


FORMER WILLOW RUN POWERTRAIN PLANT
YPSILANTI, MICHIGAN

Project No. 12602792
Date December 2024

SCHEMATIC GEOLOGIC CROSS-SECTION

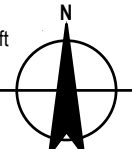
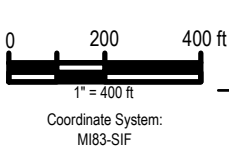
FIGURE 3



LEGEND

- AMERICAN CENTER FOR MOBILITY PROPERTY
- MICHIGAN FLIGHT MUSEUM PROPERTY
- EAST SIDE STORM DRAIN
- 84" SEWER

- HISTORICAL STORM DRAIN
- WCAA STORM SEWER
- KIRK PROFIT DRIVE STORM SEWER

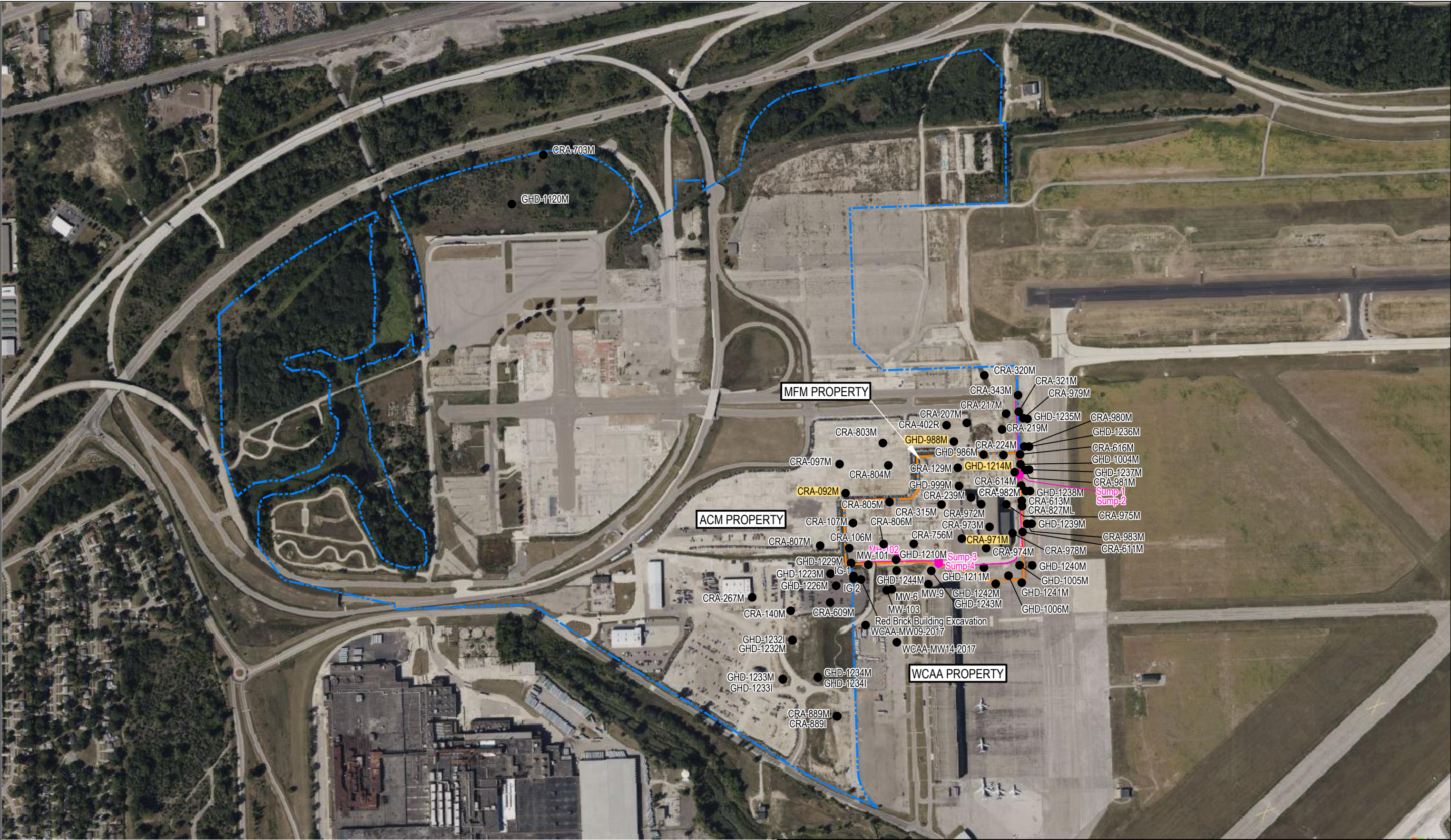


FORMER WILLOW RUN POWERTRAIN
YPSILANTI, MICHIGAN

Project No. 12602792
Date March 2025

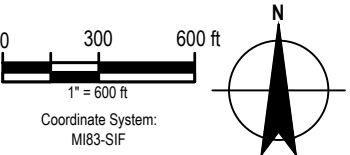
STORM SEWER NETWORK

FIGURE 4



LEGEND

- AMERICAN CENTER FOR MOBILITY PROPERTY
- MICHIGAN FLIGHT MUSEUM PROPERTY
- GROUNDWATER MONITORING LOCATIONS SAMPLED FOR PFAS
- FRENCH DRAIN
- LOCATIONS SAMPLED FOR LNAPL

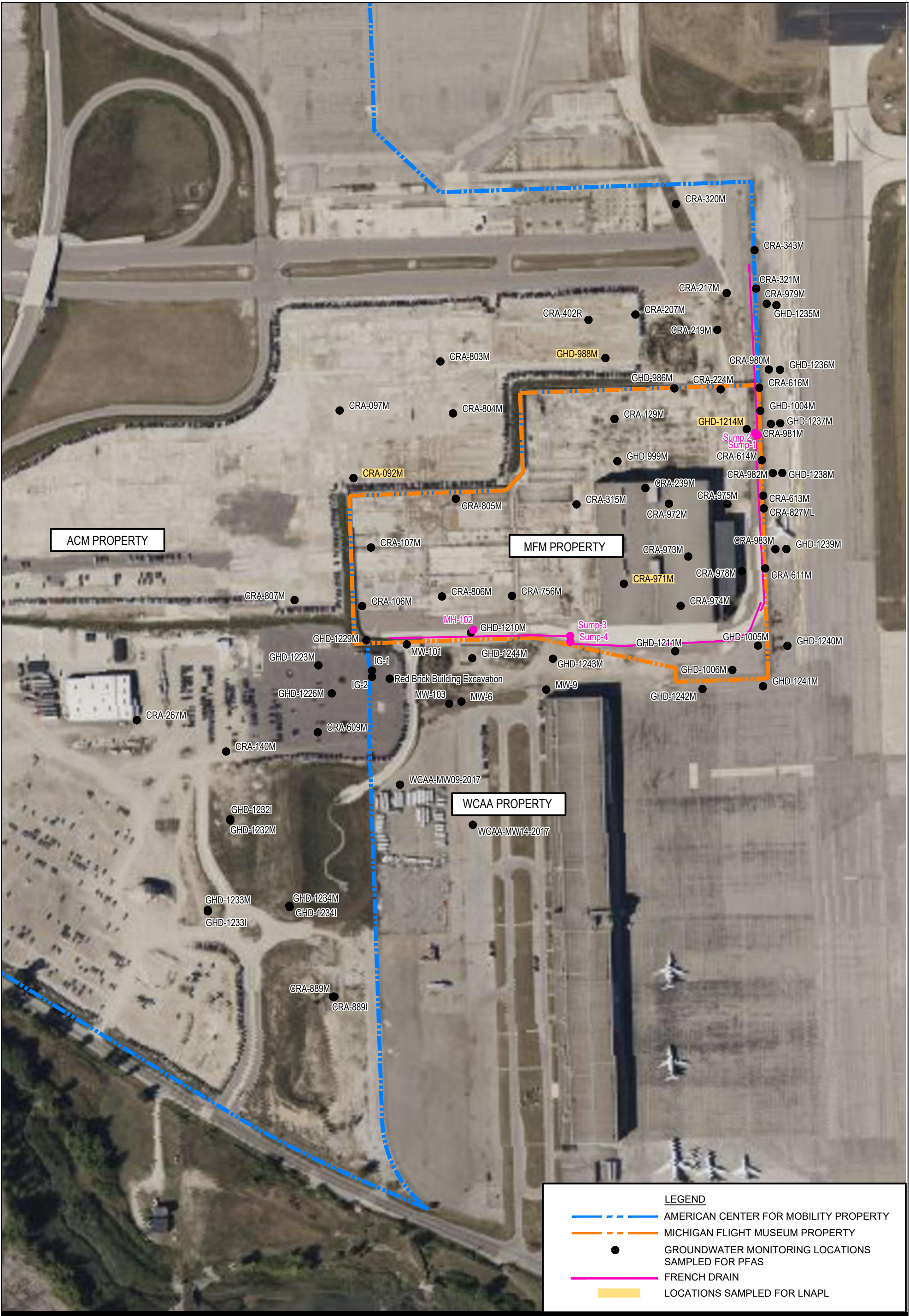


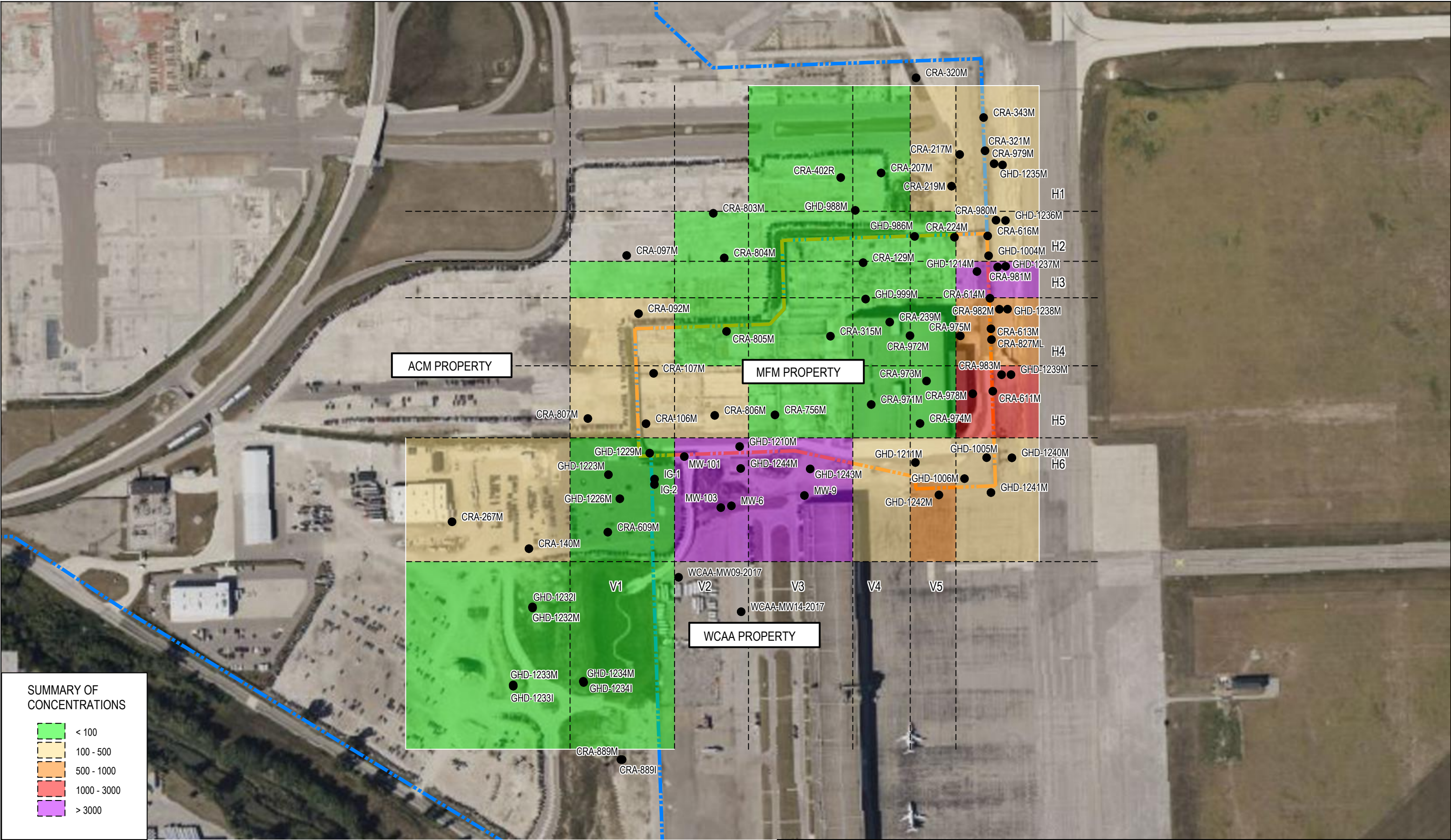
RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

GROUNDWATER MONITORING LOCATIONS
SAMPLED FOR PFAS (FULL SITE)

Project No. 12602792
Date March 2025

FIGURE 5





SUMMARY OF CONCENTRATIONS

	< 100
	100 - 500
	500 - 1000
	1000 - 3000
	> 3000

LEGEND

- AMERICAN CENTER FOR MOBILITY PROPERTY
- MICHIGAN FLIGHT MUSEUM PROPERTY
- GROUNDWATER MONITORING LOCATIONS SAMPLED FOR PFAS

0 150 300 ft
1" = 300 ft
Coordinate System: M83-SIF

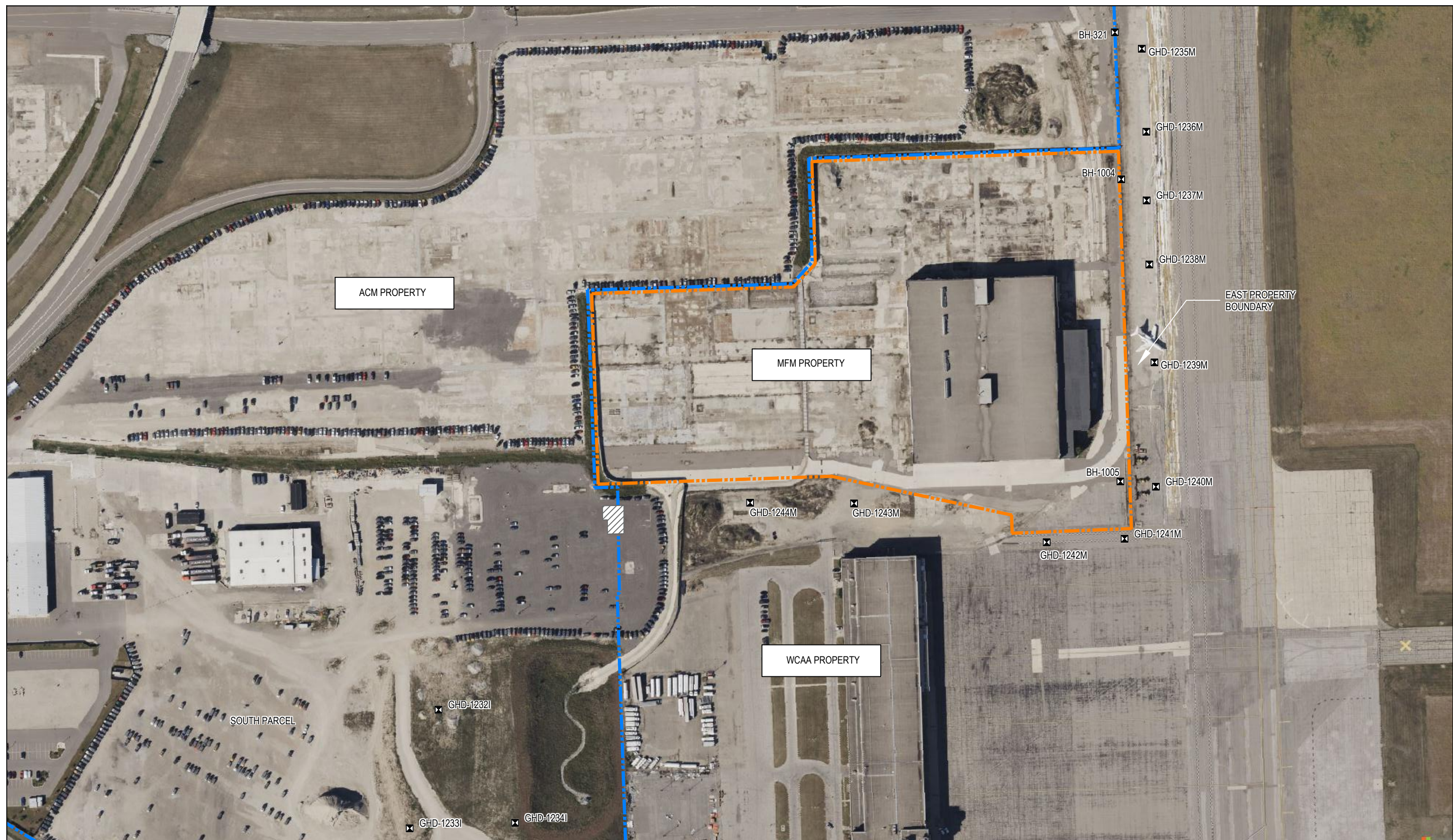


RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

PFAS ANALYTICAL RESULT HEAT MAP

Project No. 12602792
Date March 2025

FIGURE 7





LEGEND

AMERICAN CENTER FOR MOBILITY PROPERTY

SURFACE WATER LOCATION

0 75 150 ft

1" = 150 ft

Coordinate System: MI83-SIF

RACER TRUST
FORMER WILLOW RUN POWERTRAIN SITE
YPSILANTI, MICHIGAN

**SURFACE WATER LOCATIONS
SAMPLED FOR PFAS**

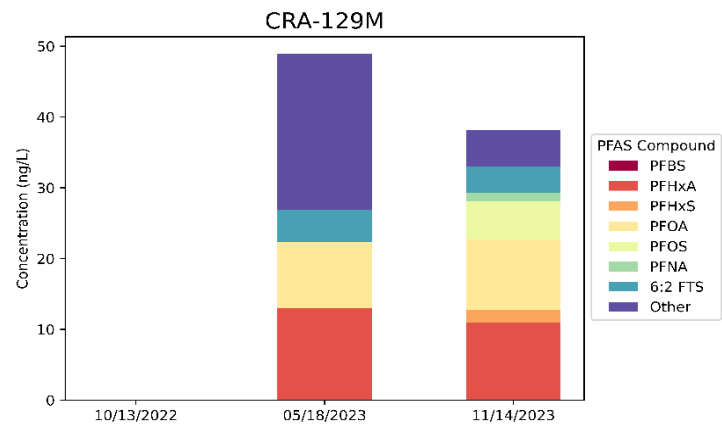
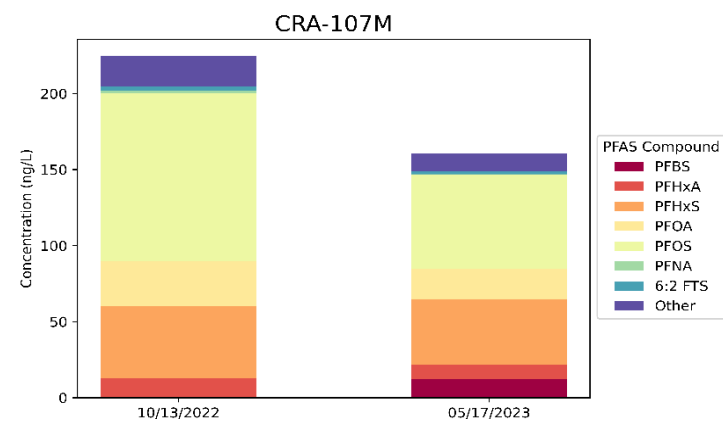
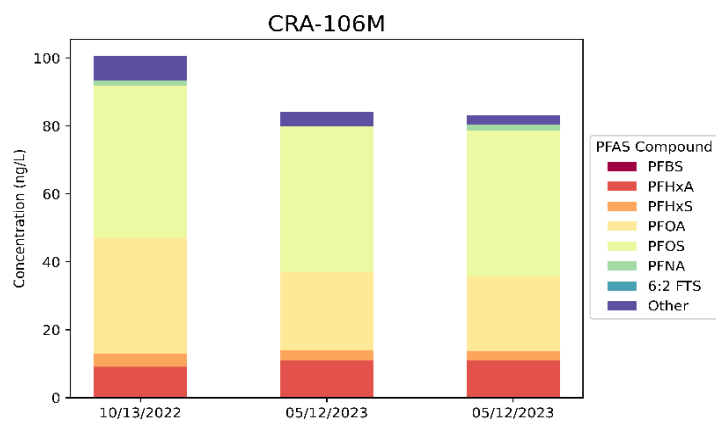
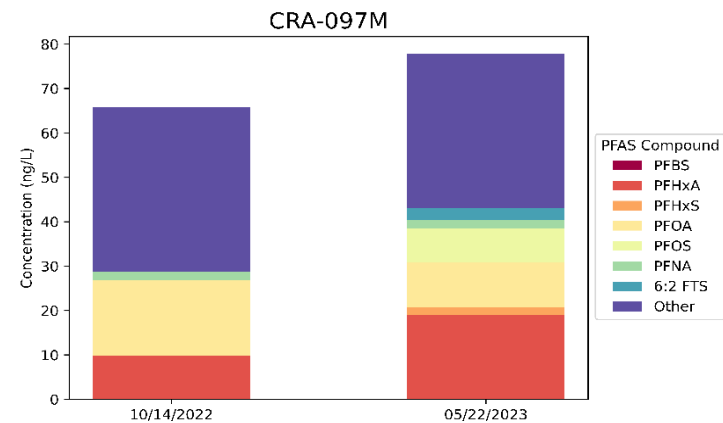
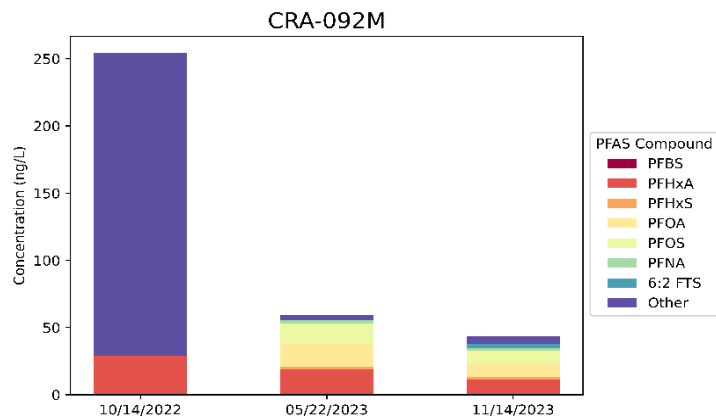
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Date February 2025

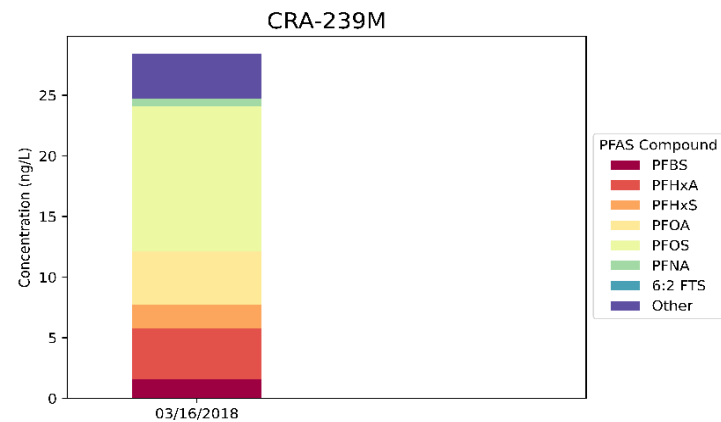
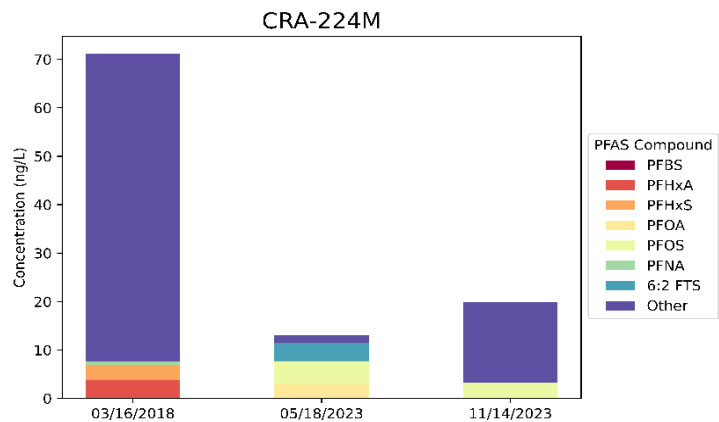
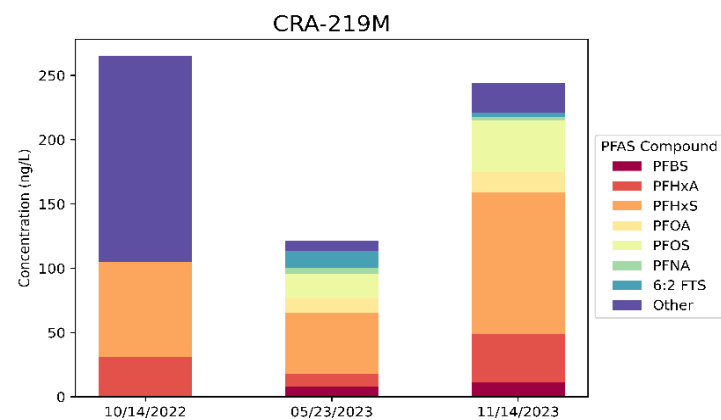
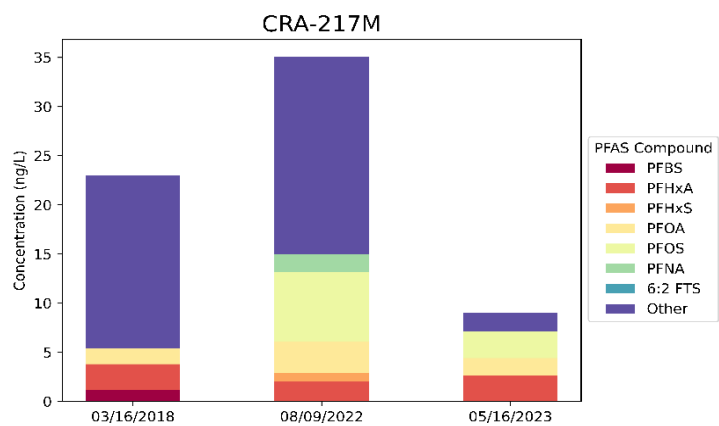
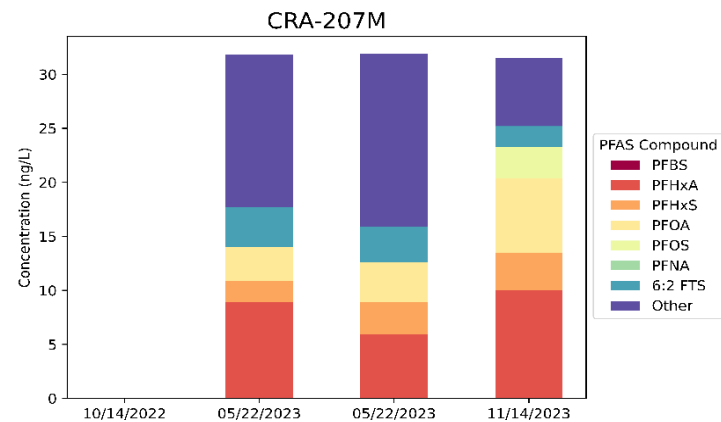
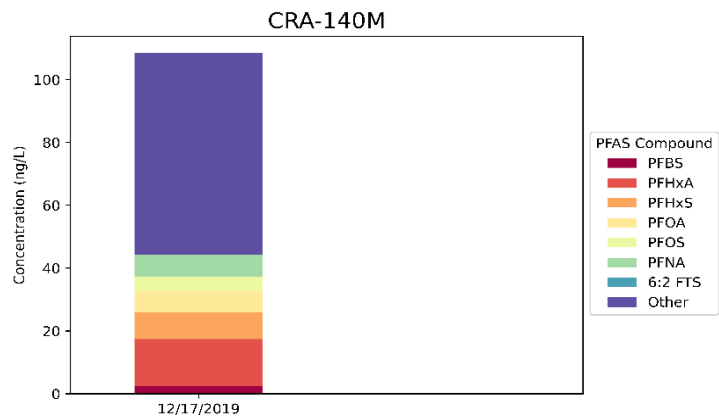
FIGURE 10

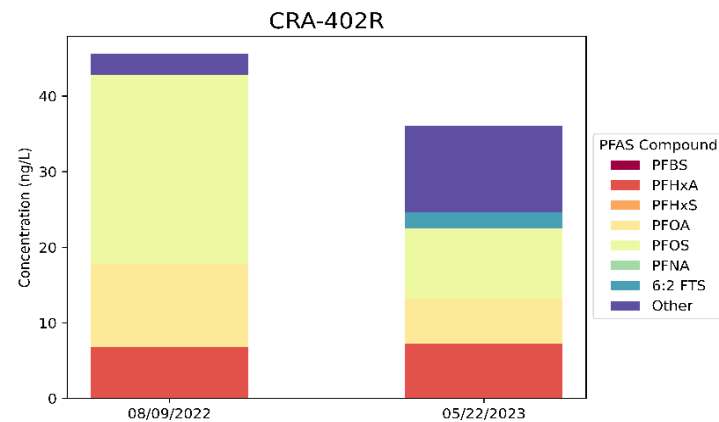
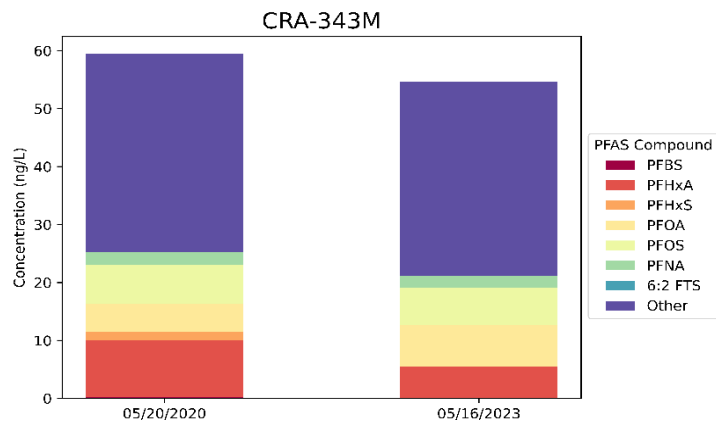
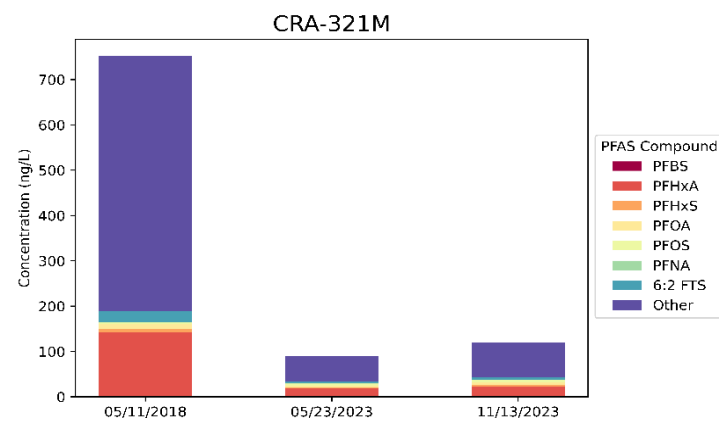
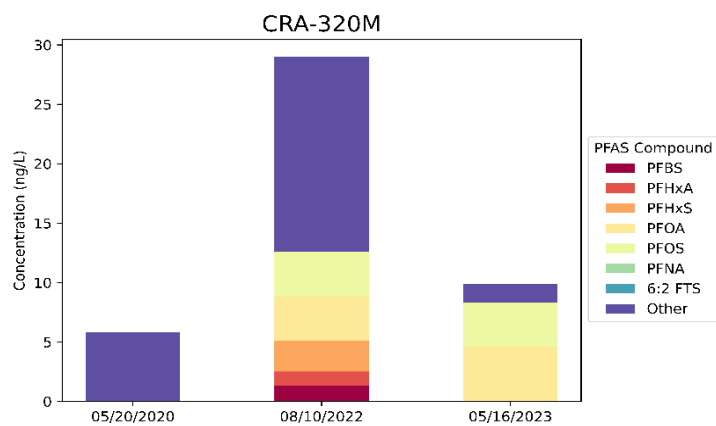
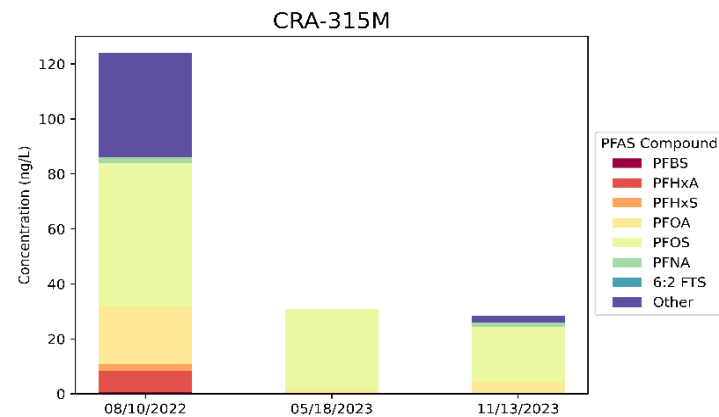
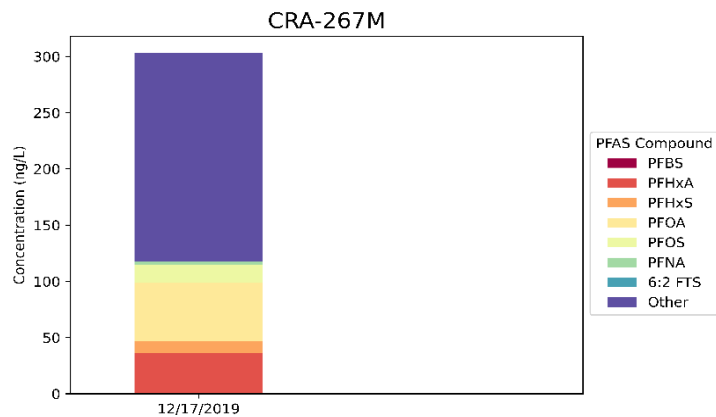
Appendices

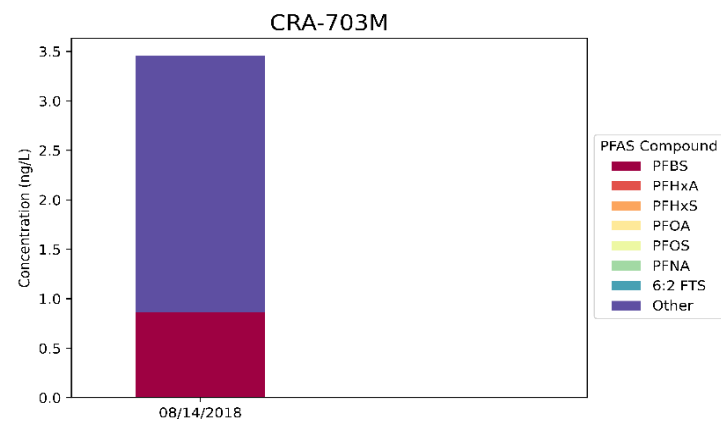
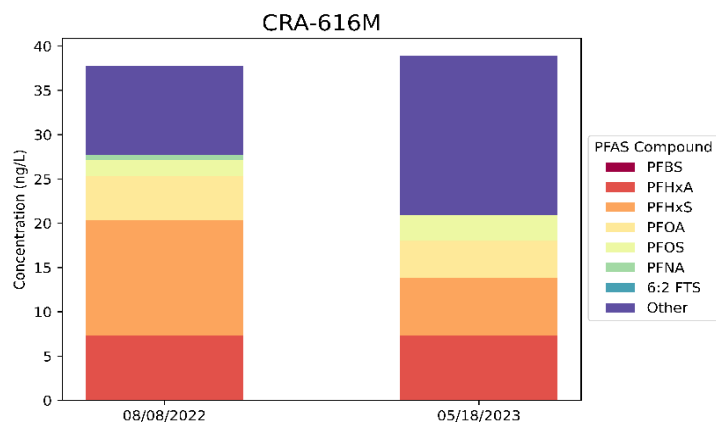
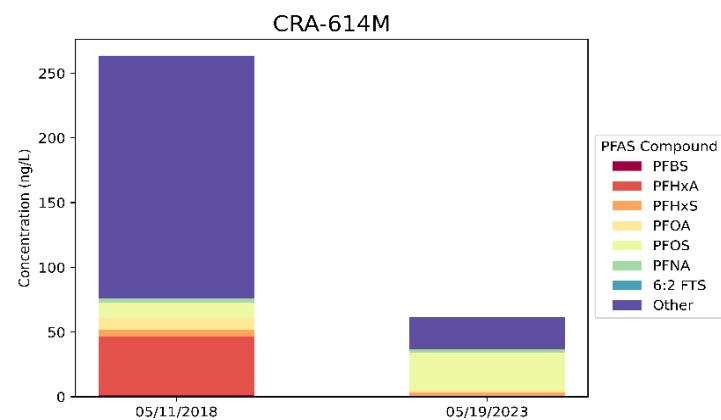
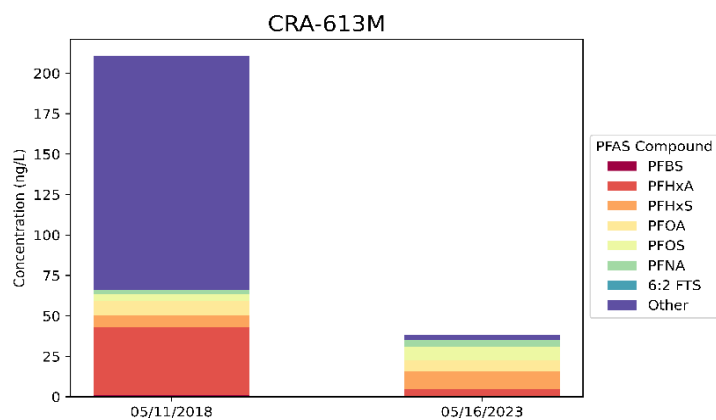
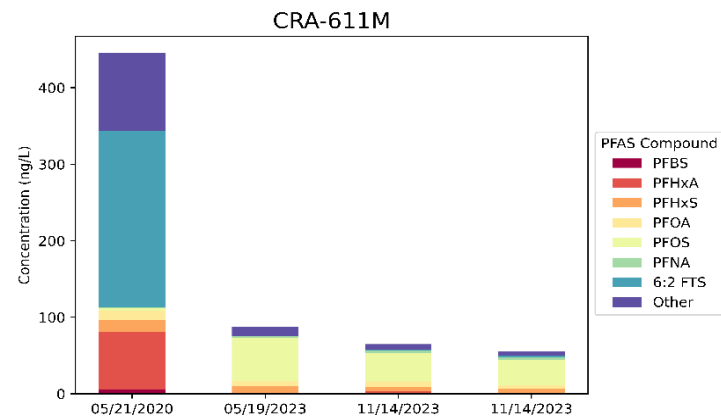
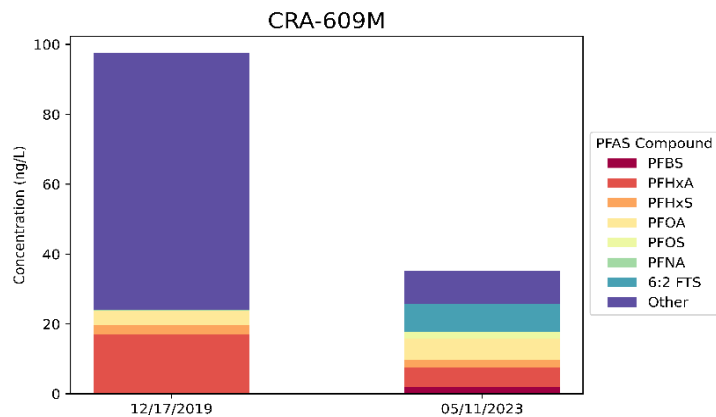
Appendix 1

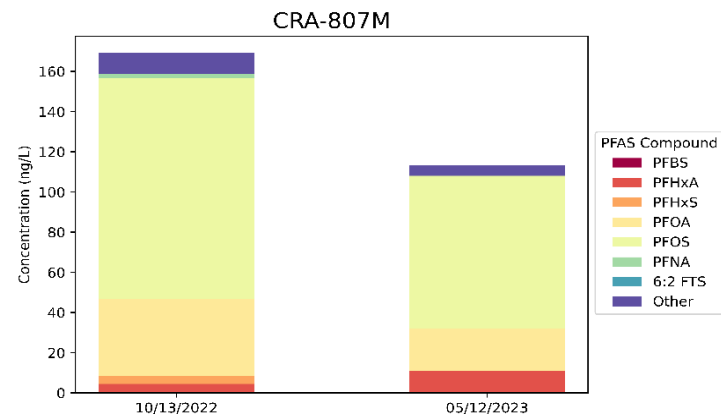
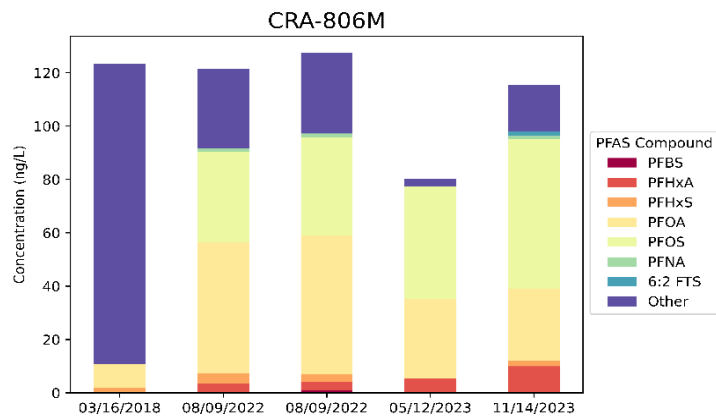
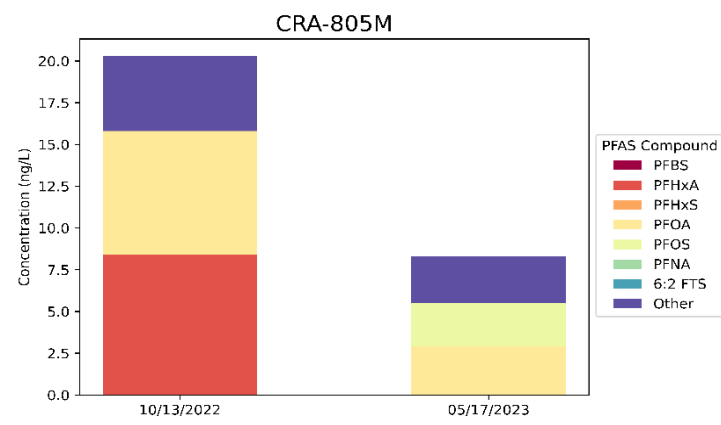
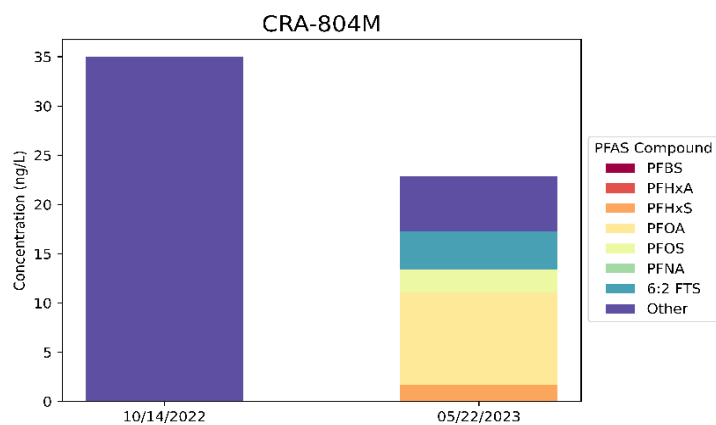
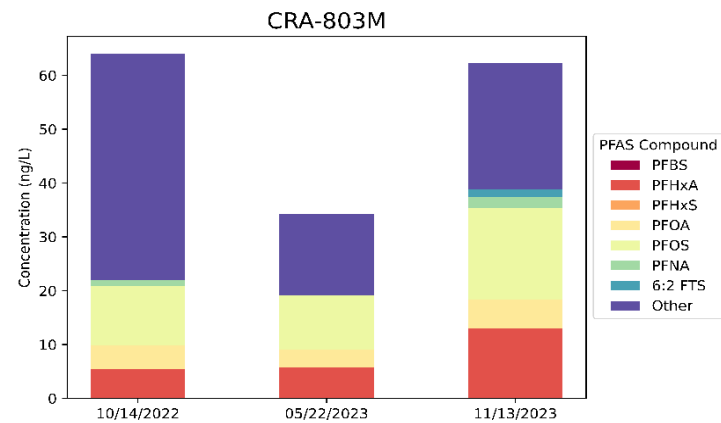
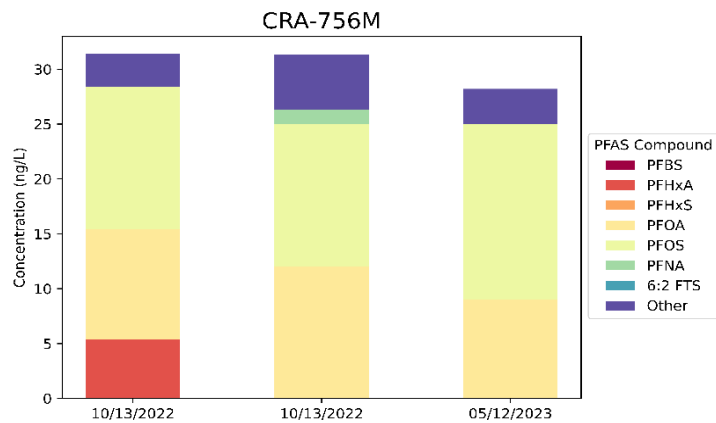
PFAS Results Stacked Column Charts

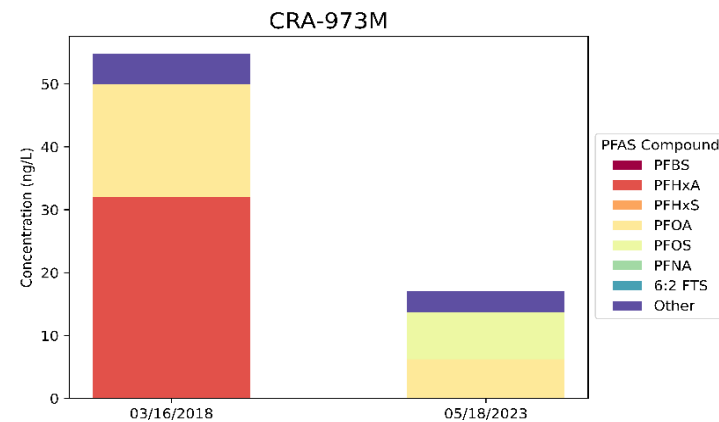
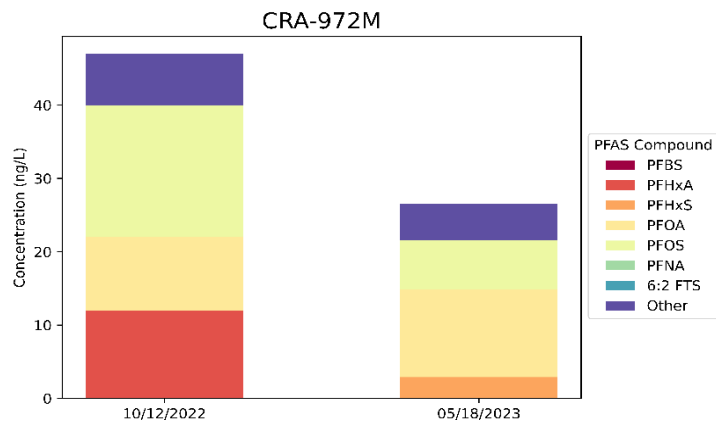
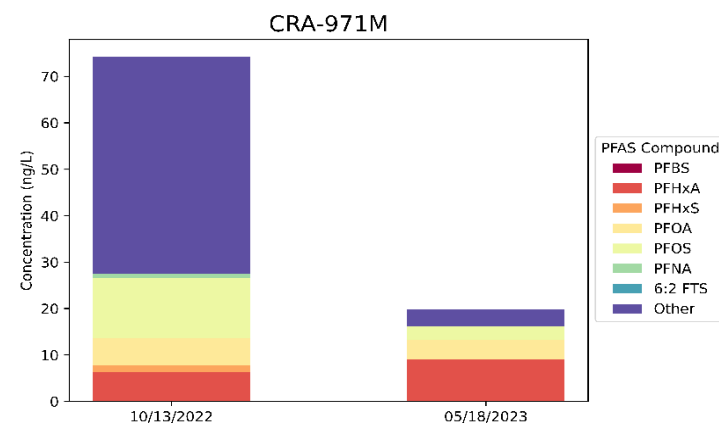
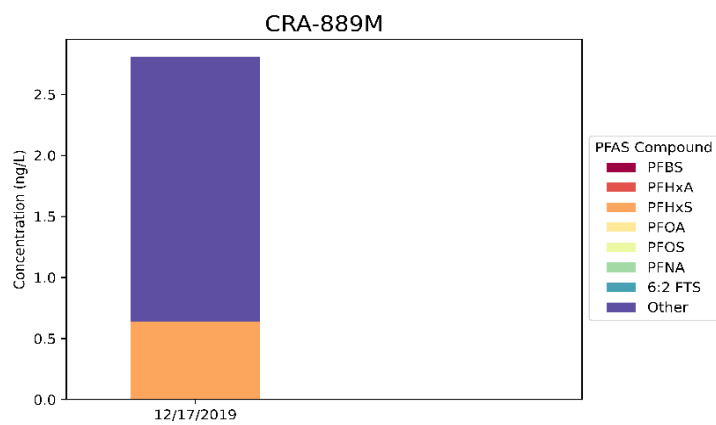
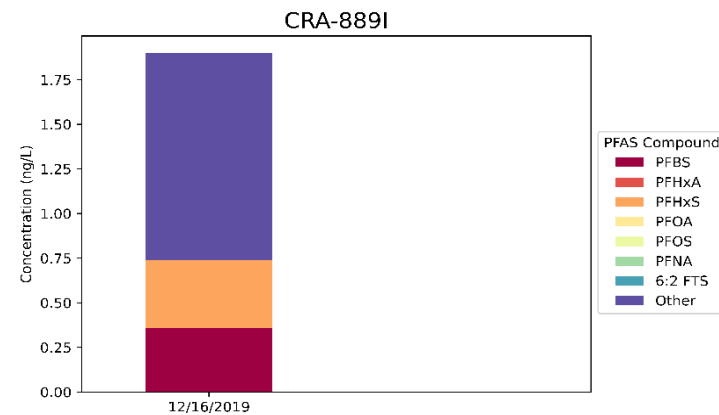
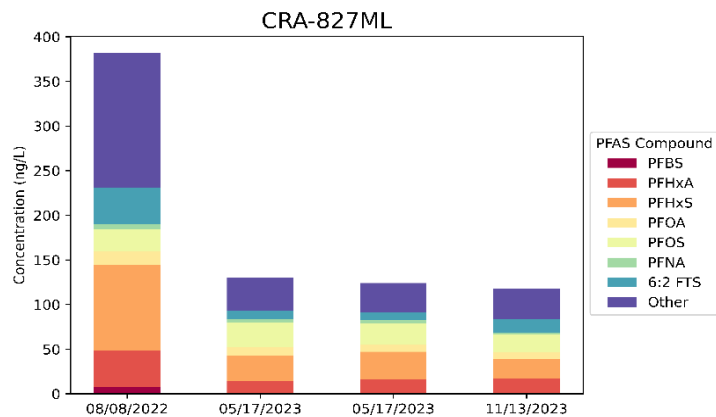


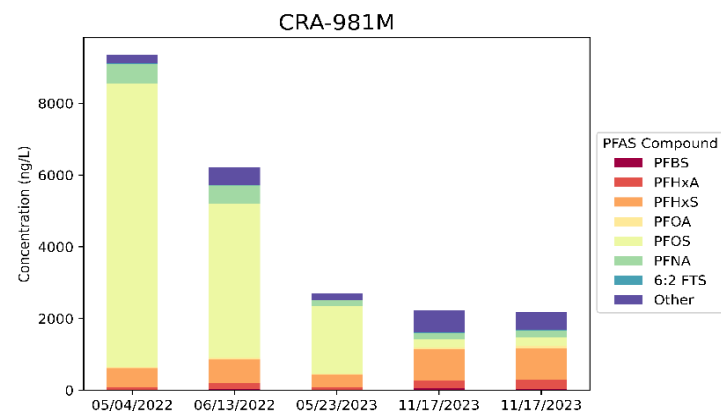
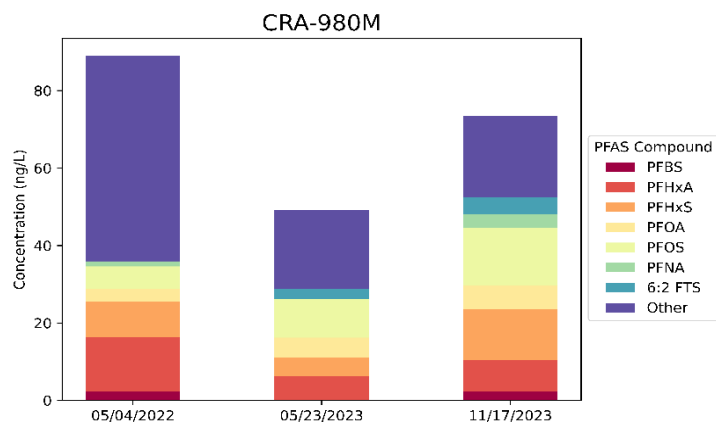
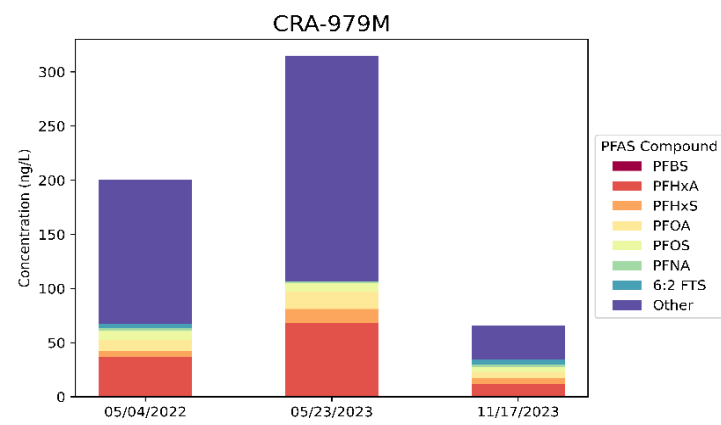
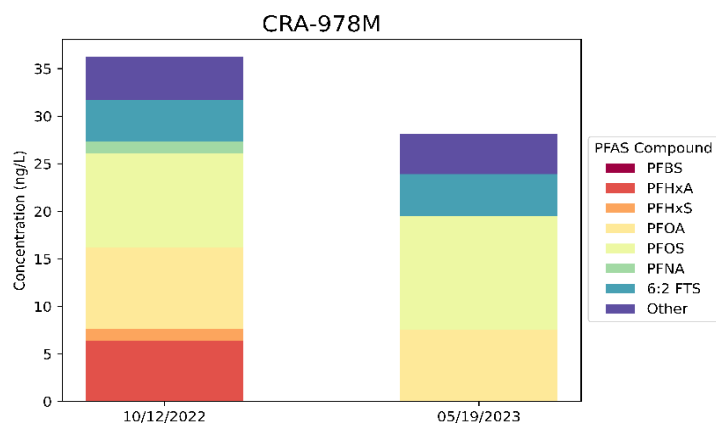
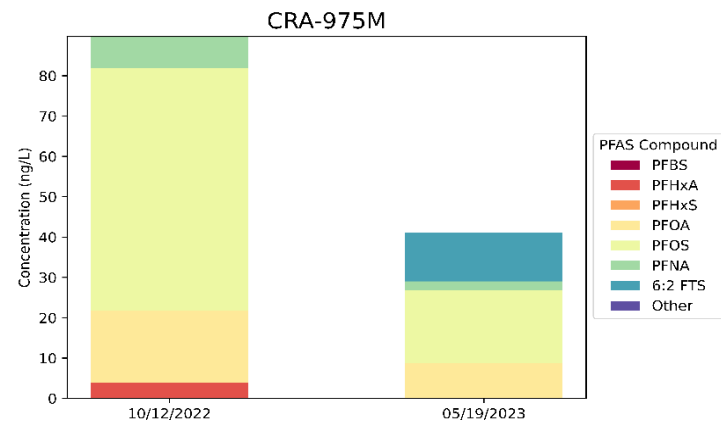
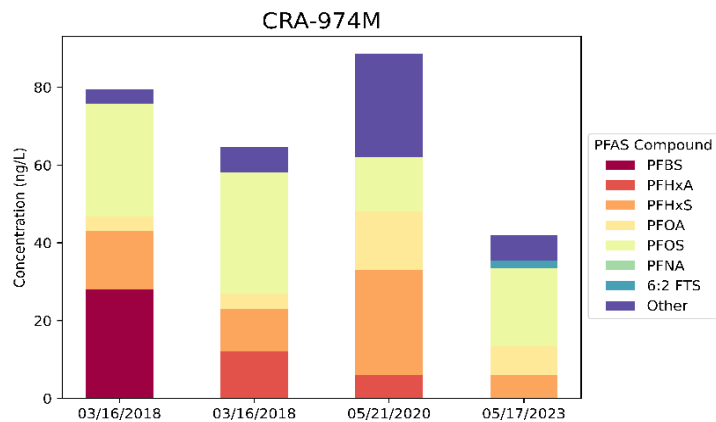


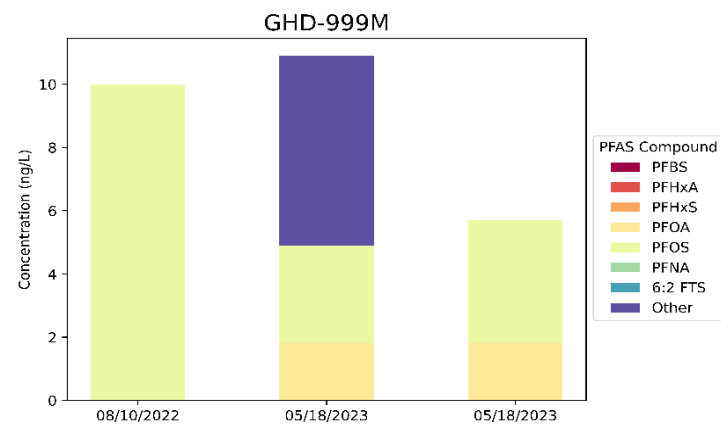
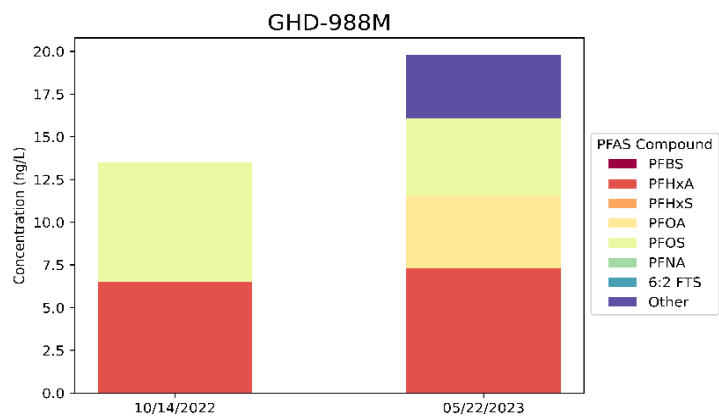
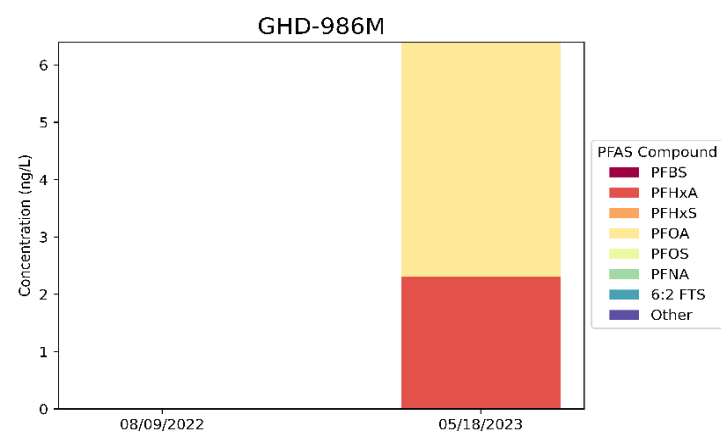
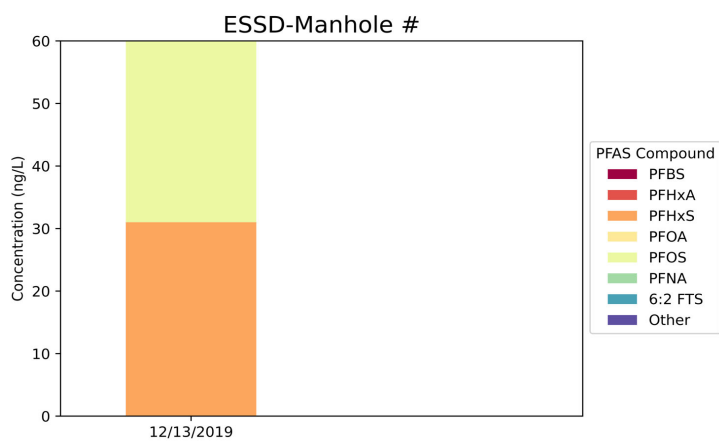
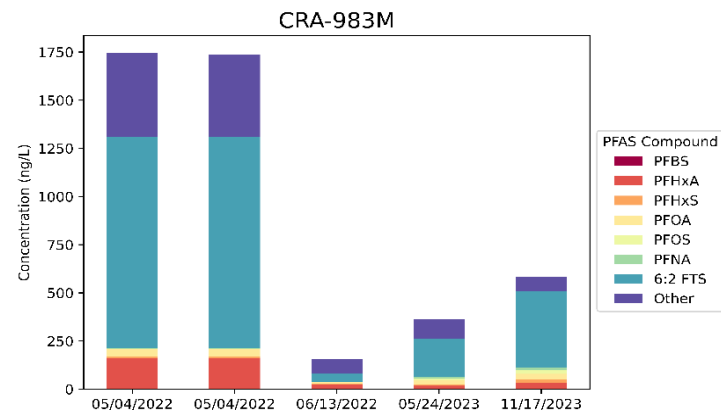
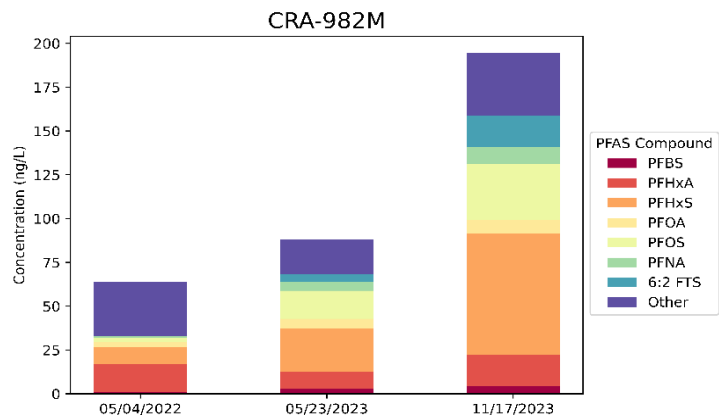


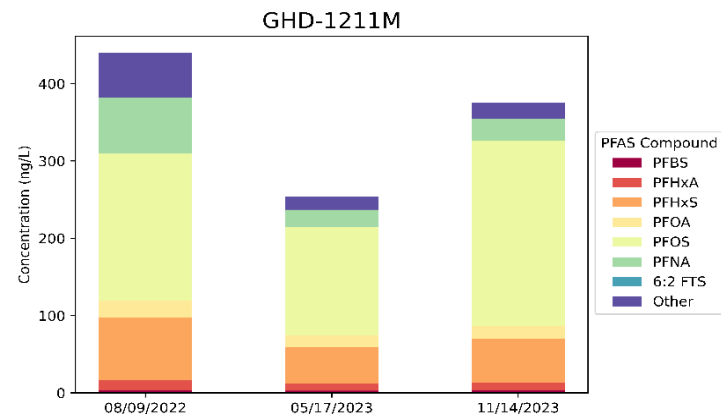
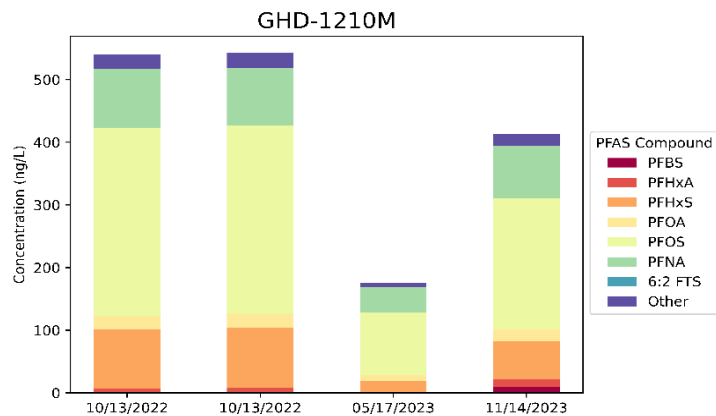
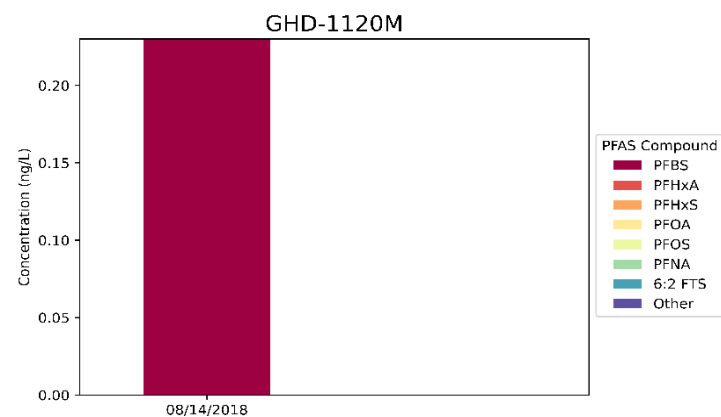
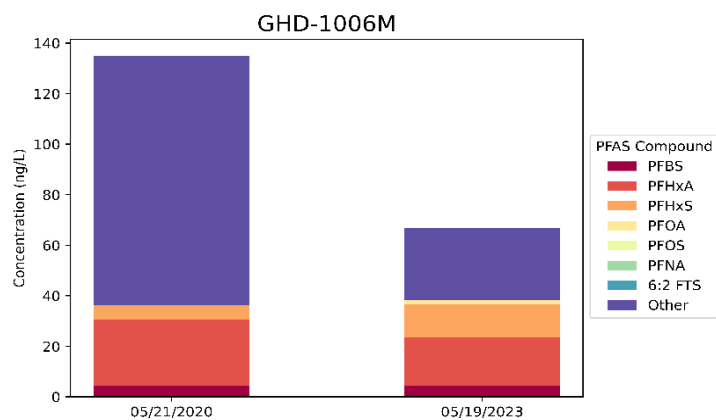
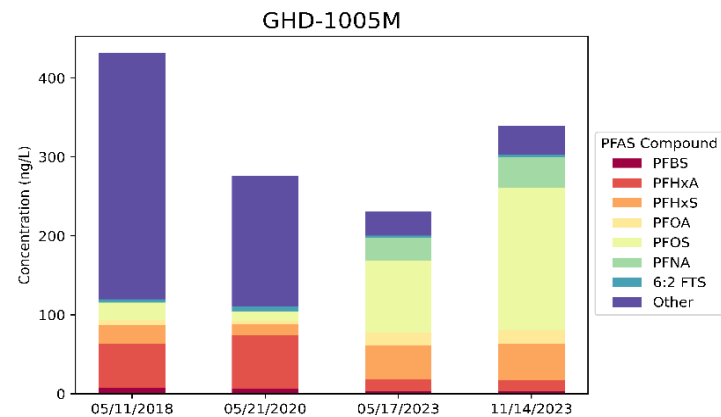
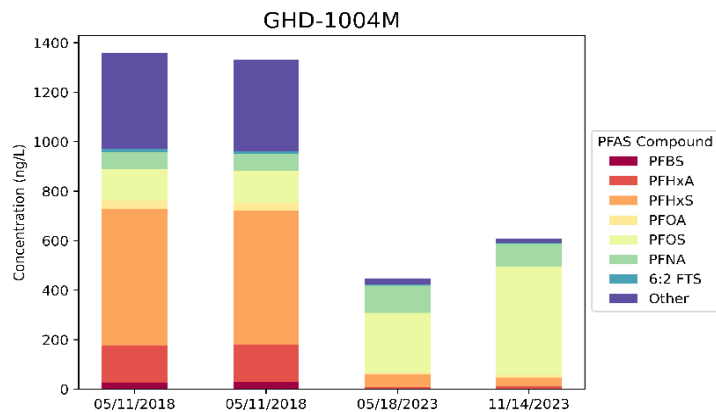


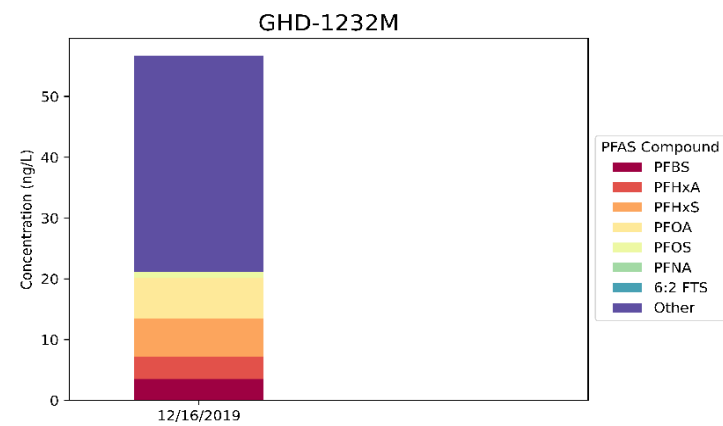
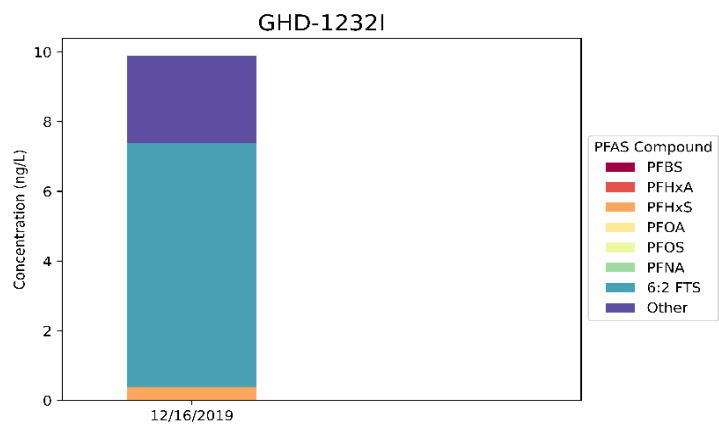
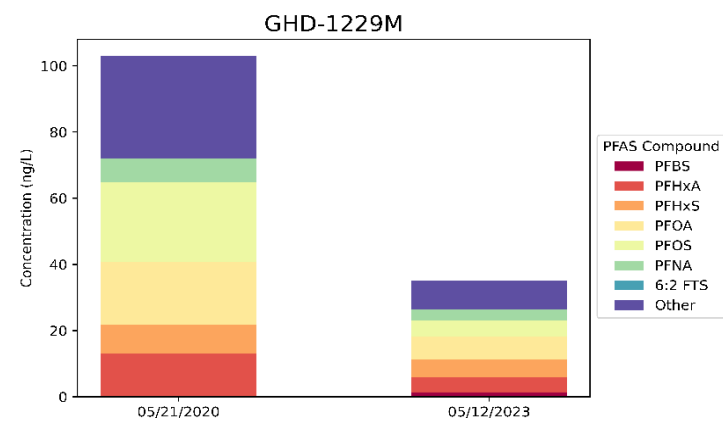
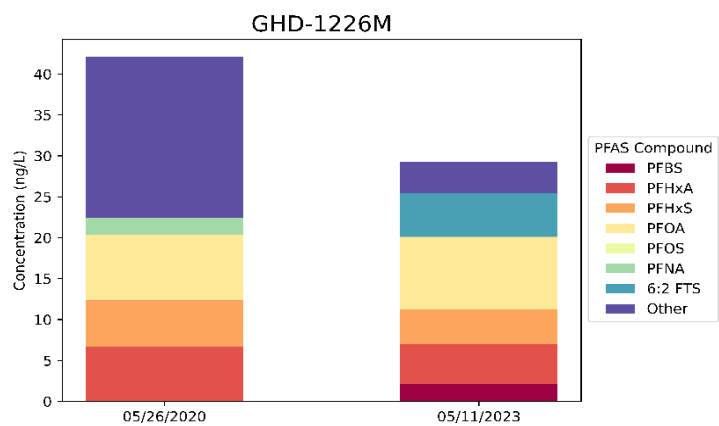
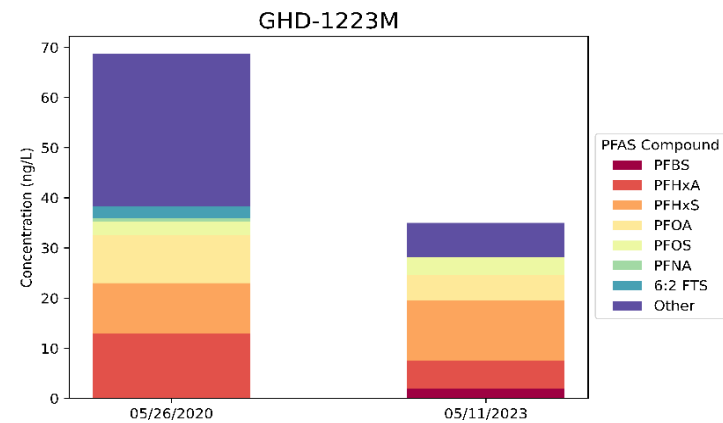
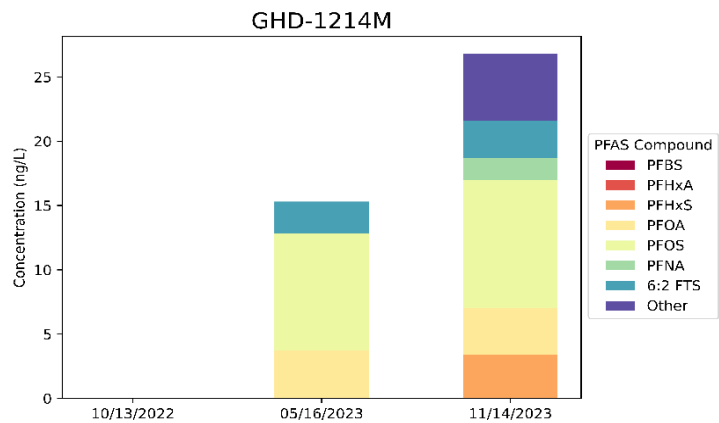


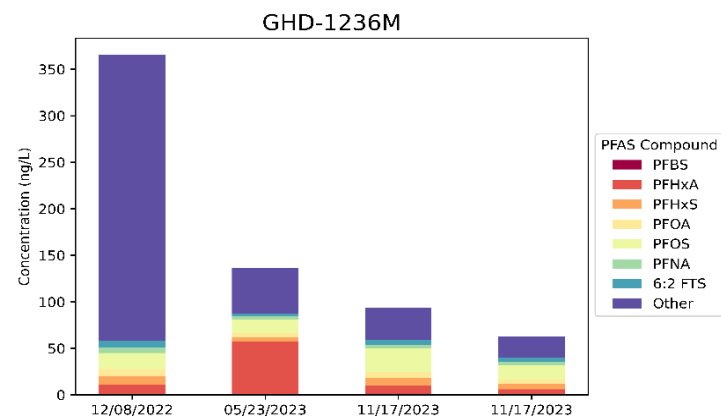
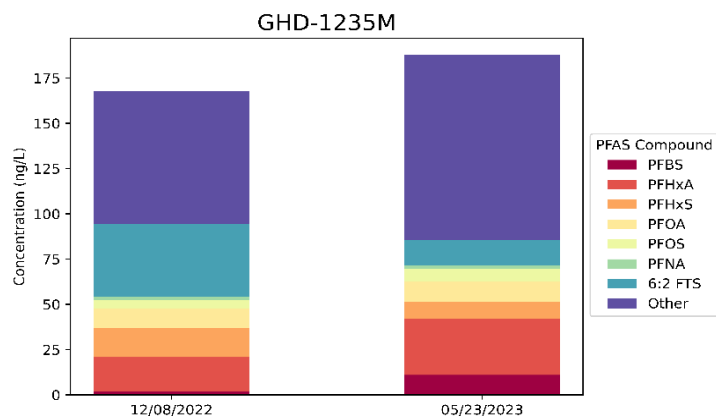
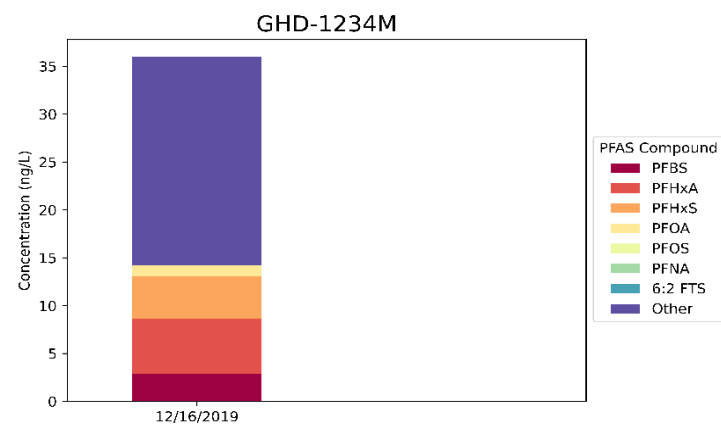
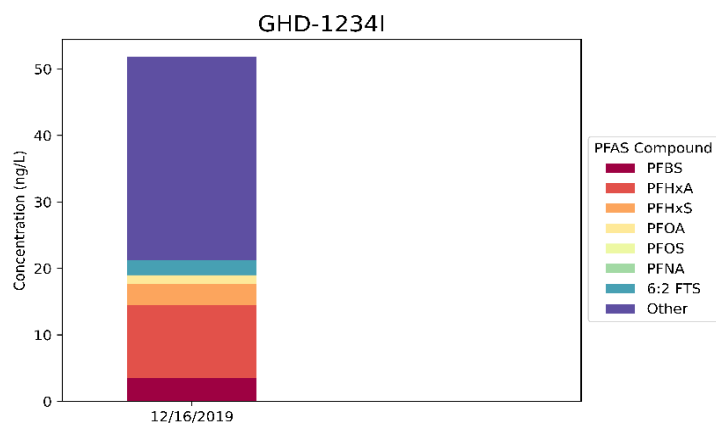
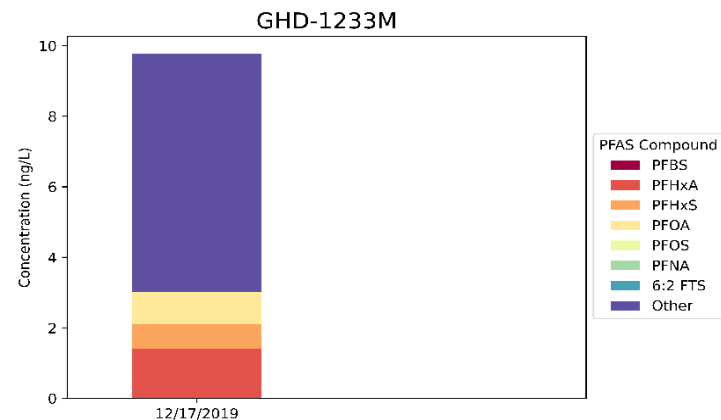
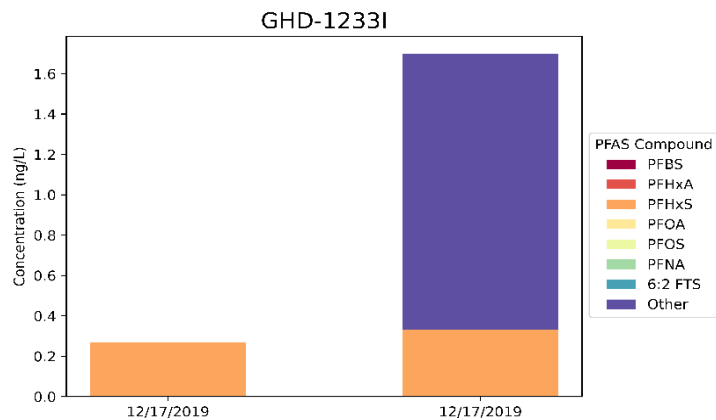


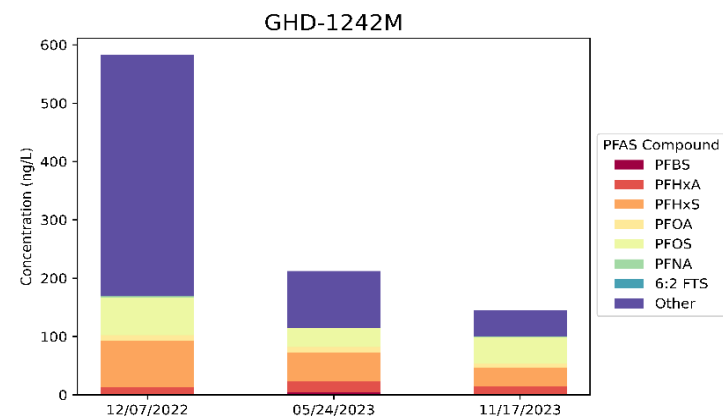
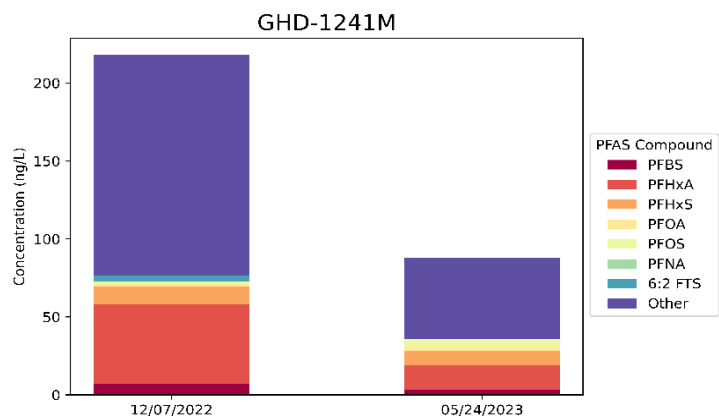
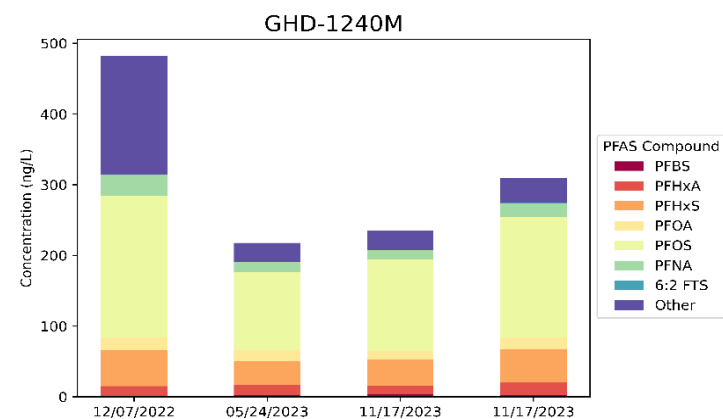
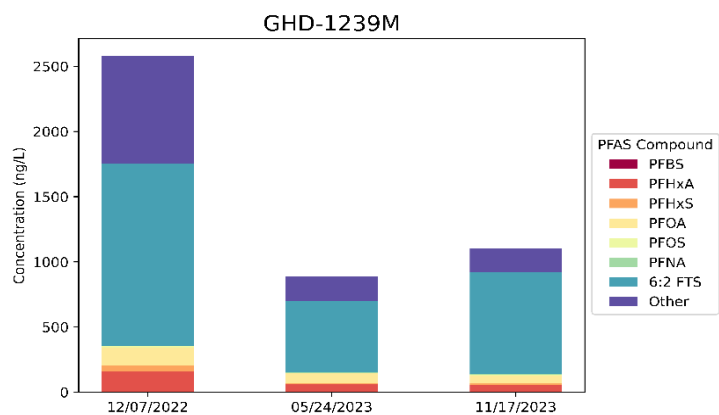
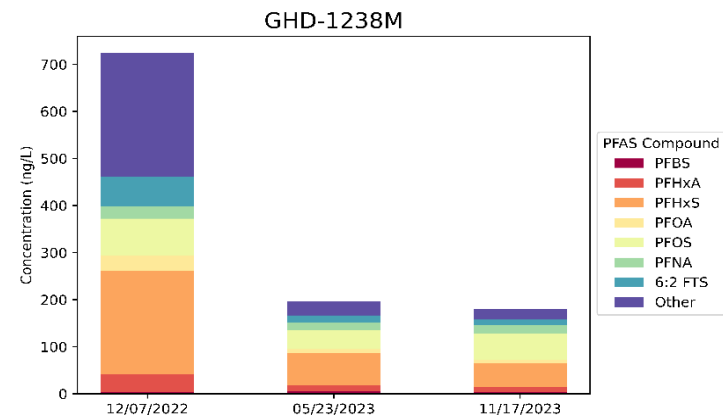
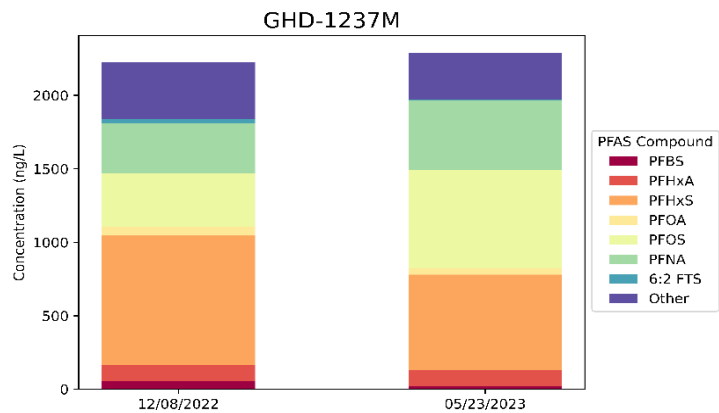


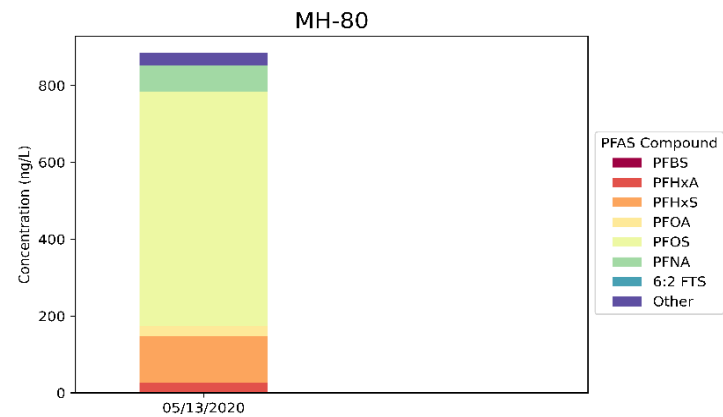
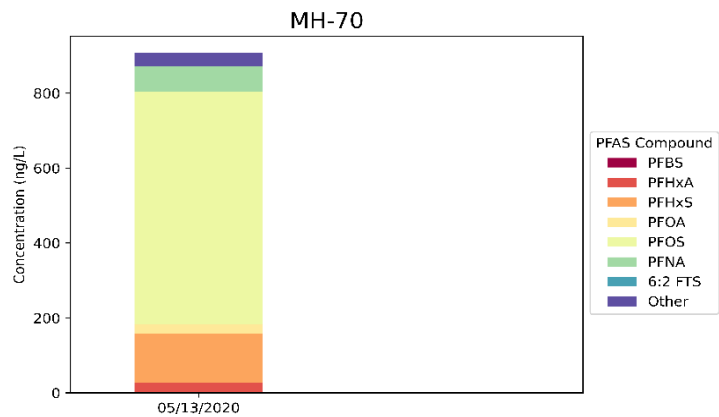
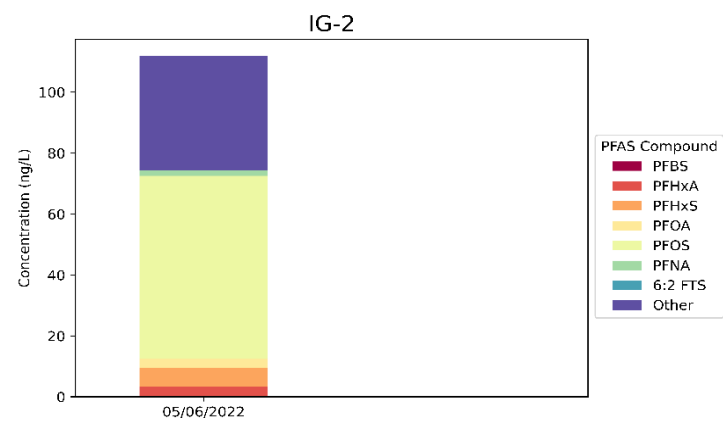
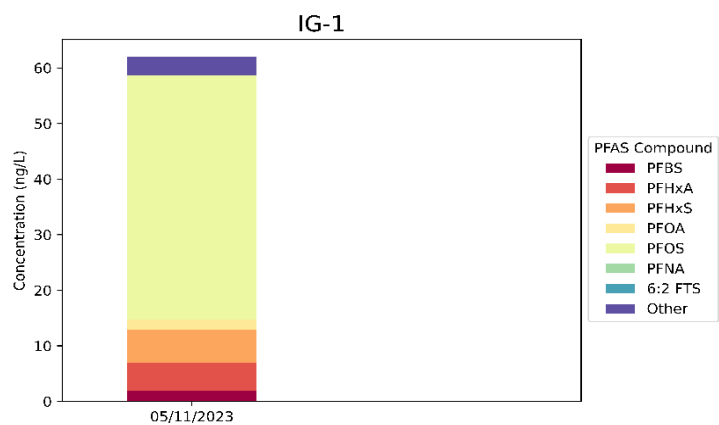
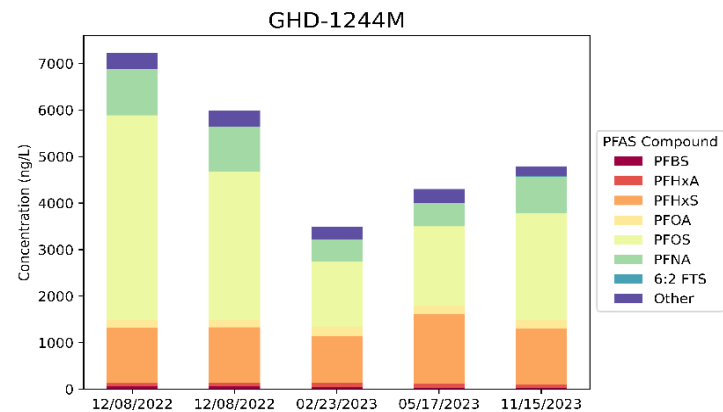
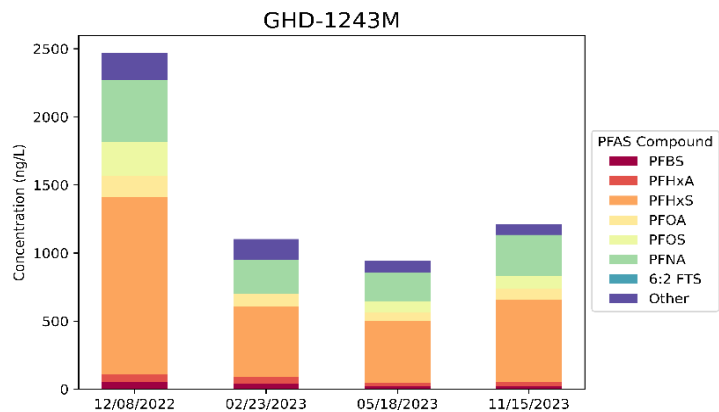


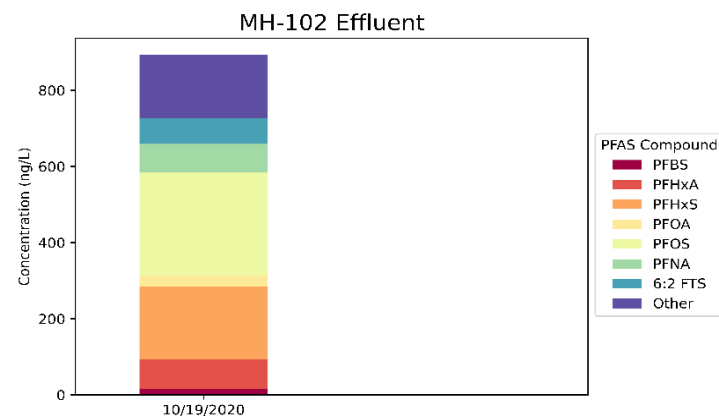
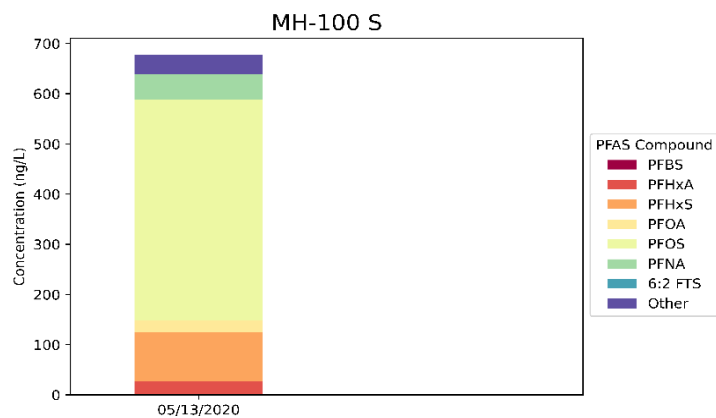
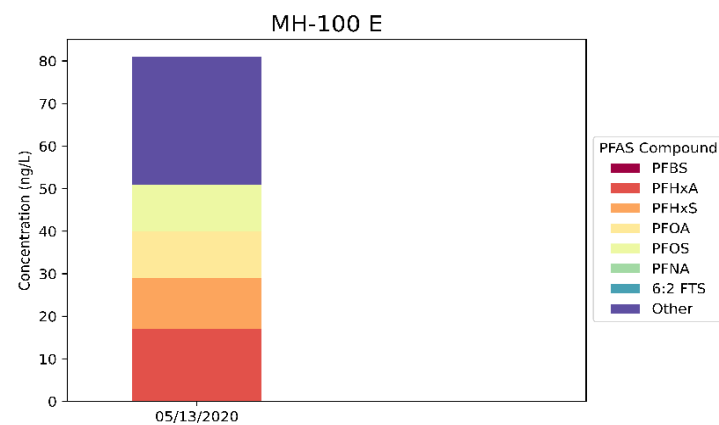
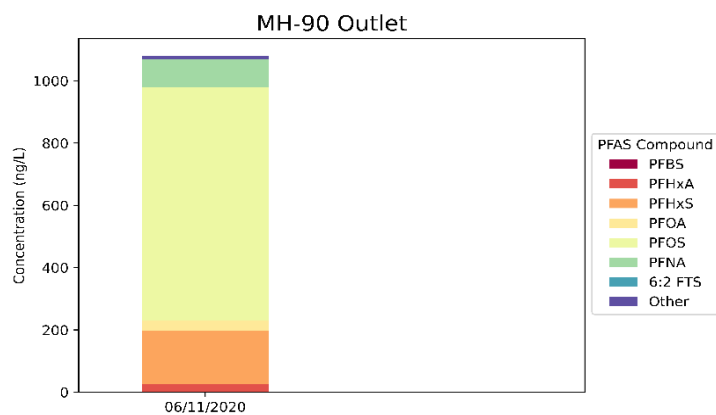
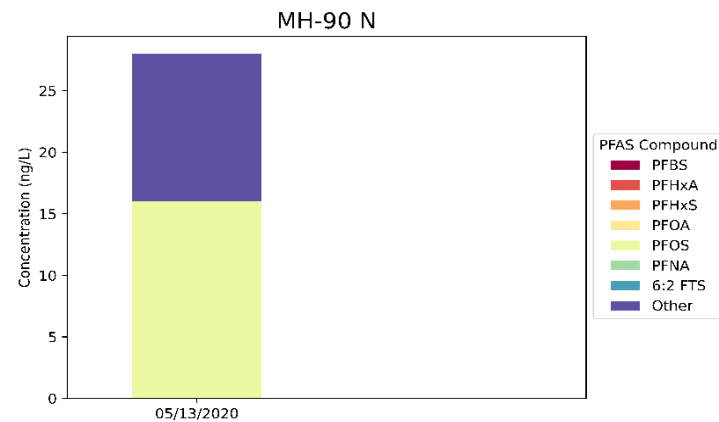
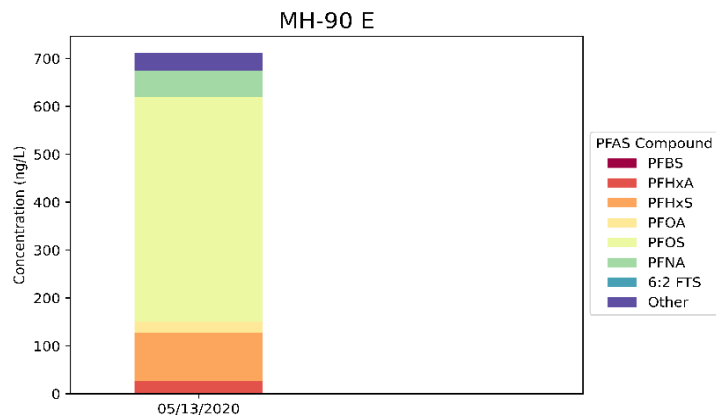


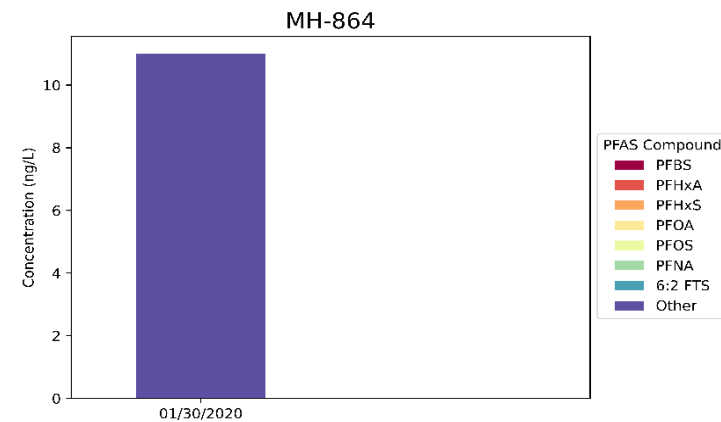
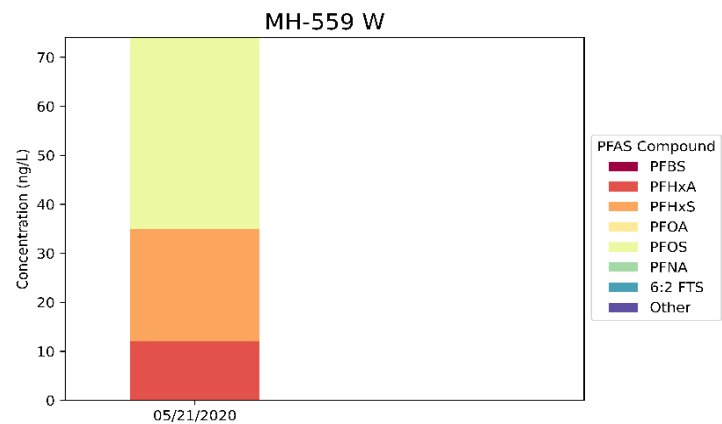
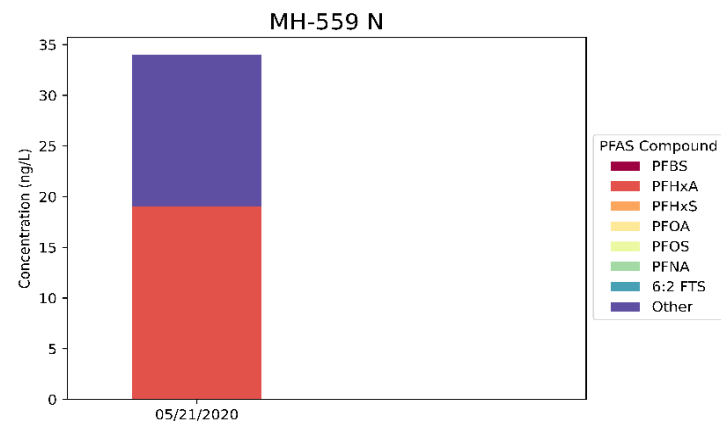
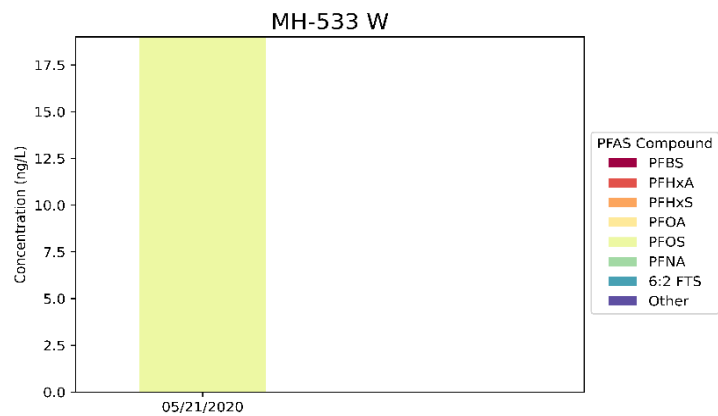
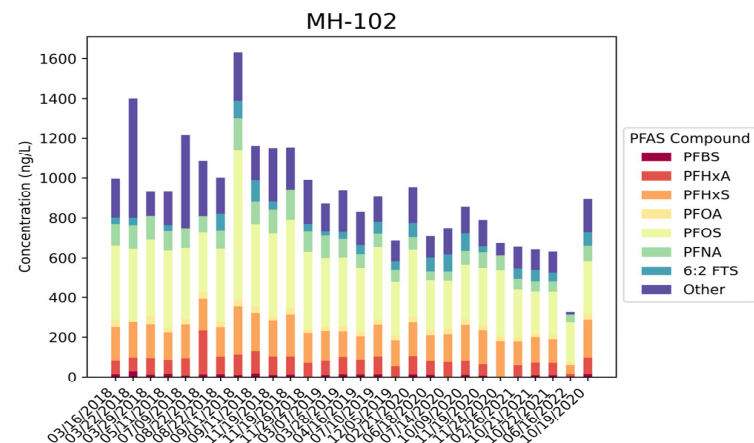


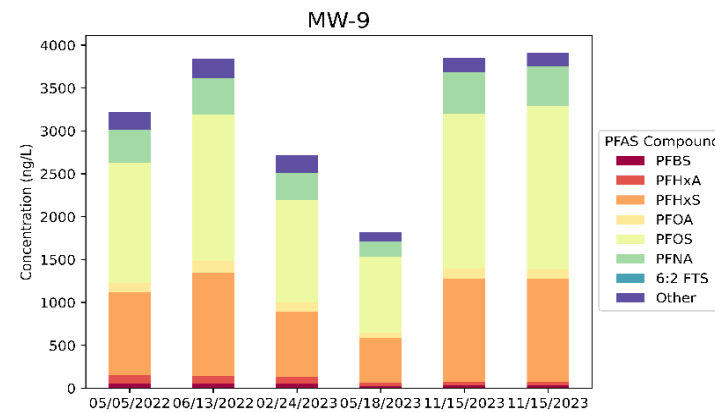
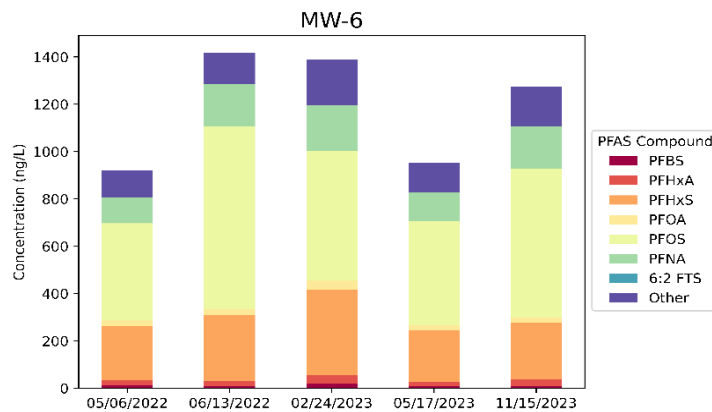
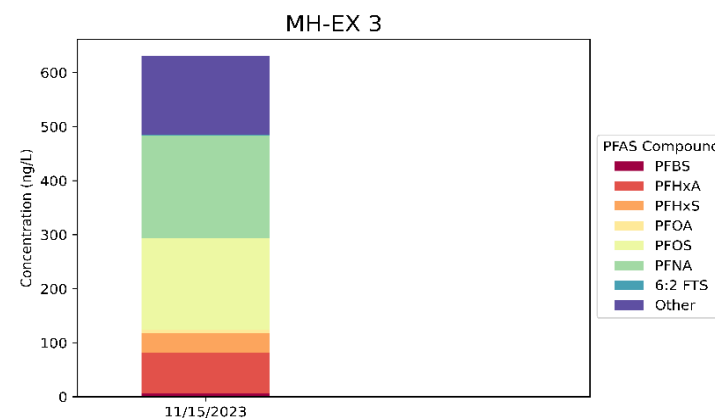
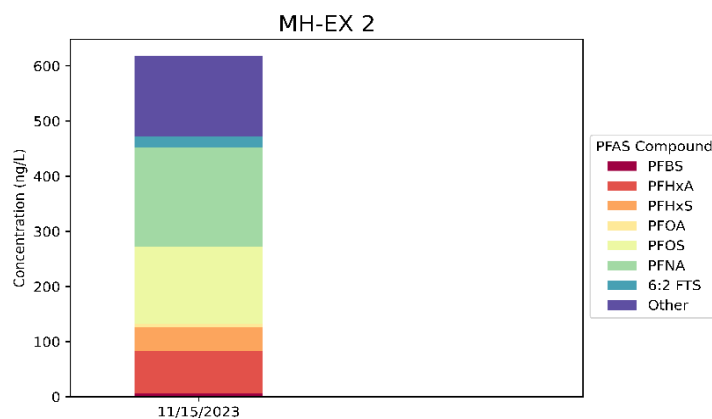
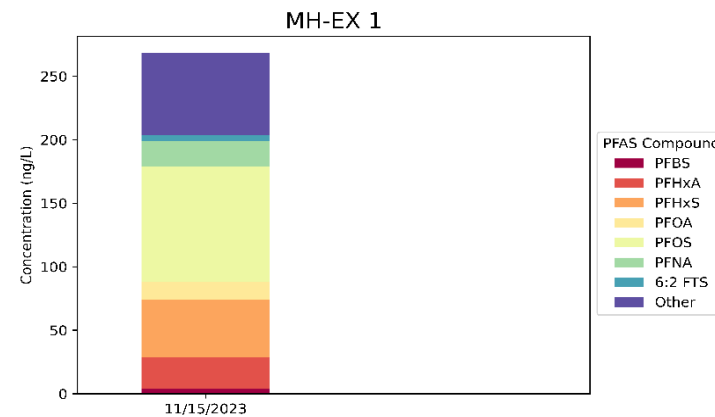
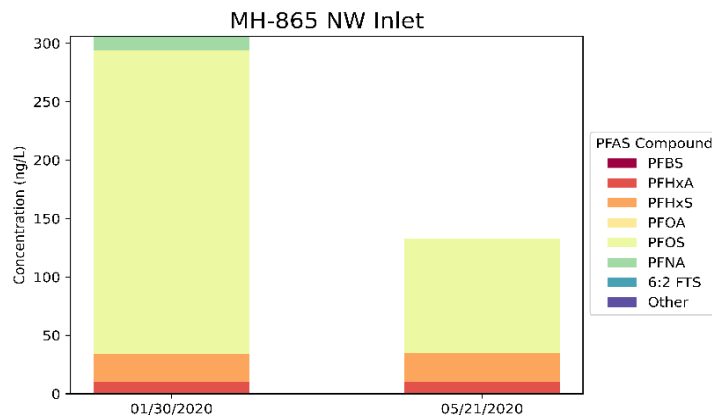


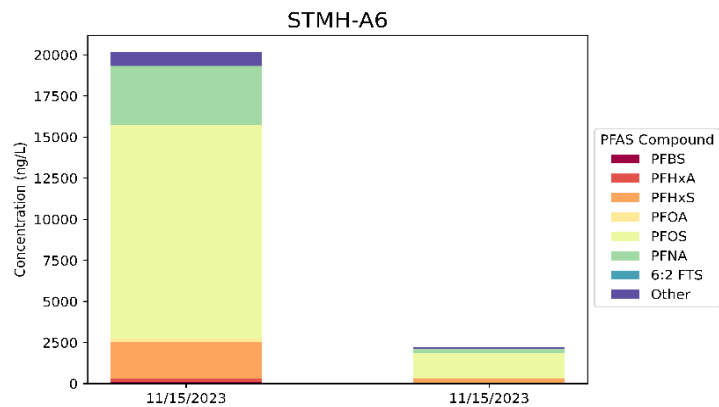
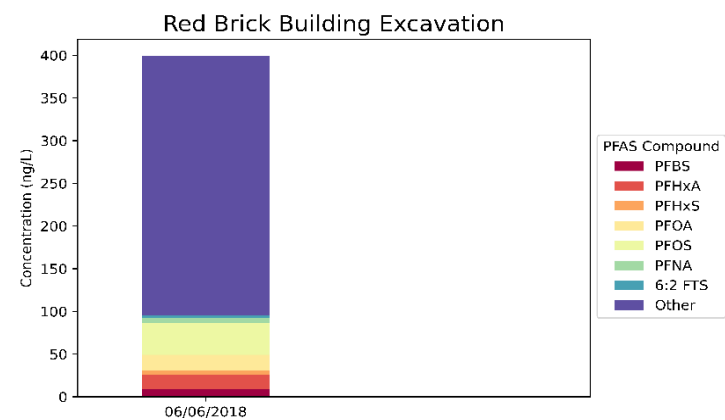
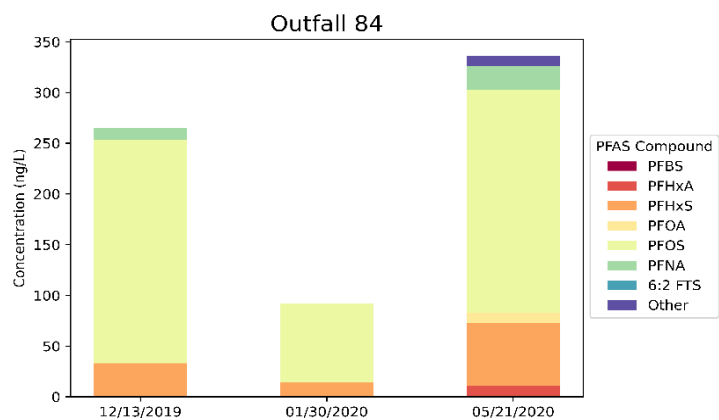
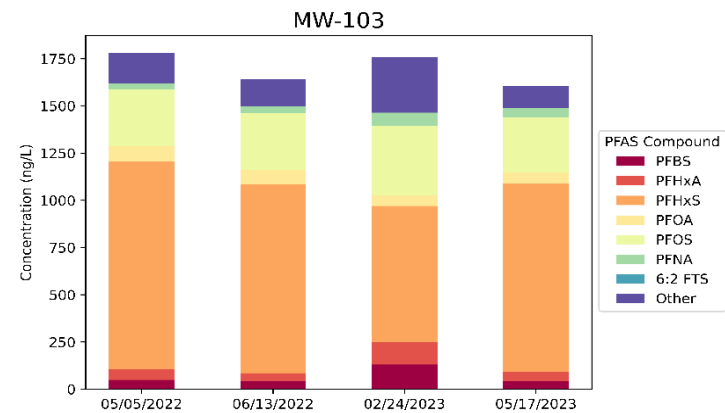
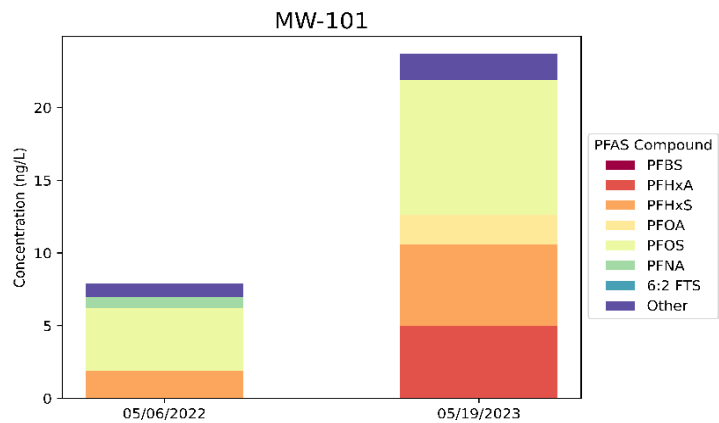


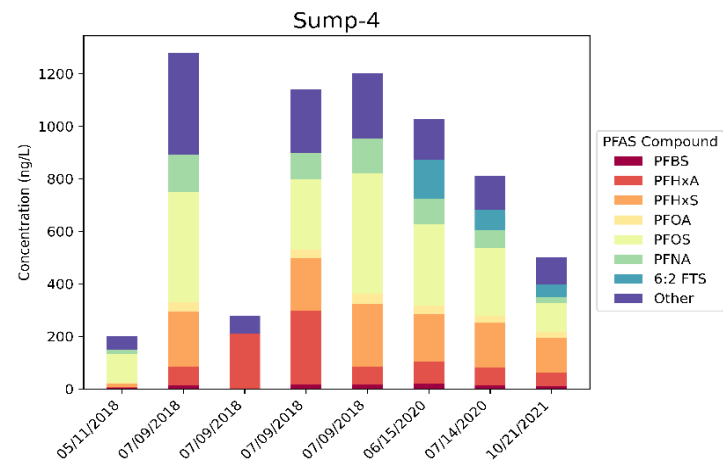
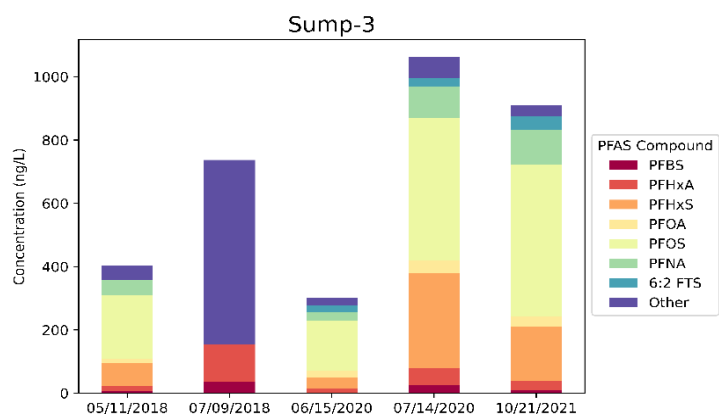
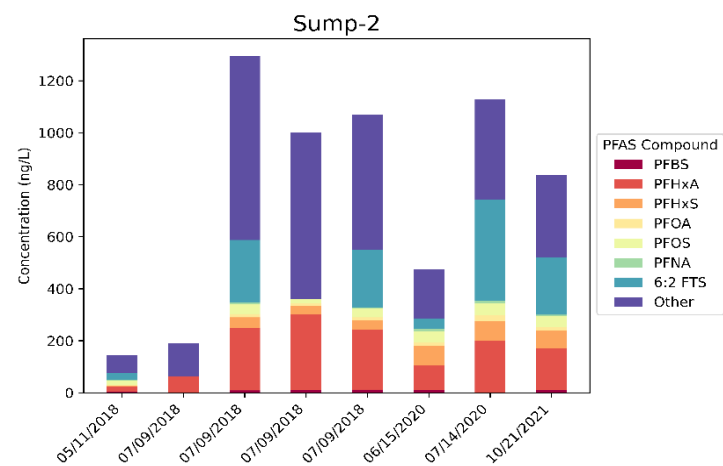
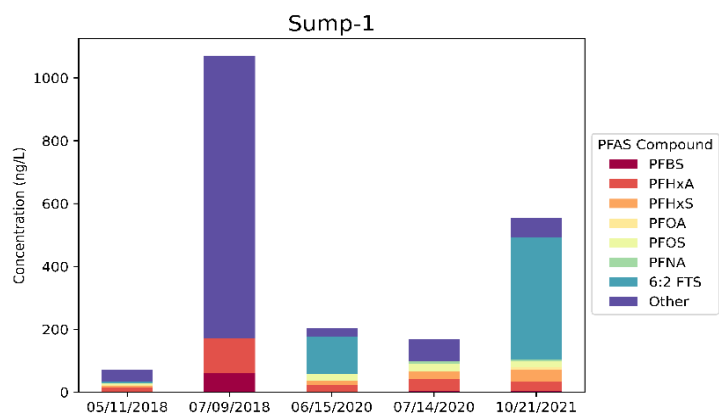


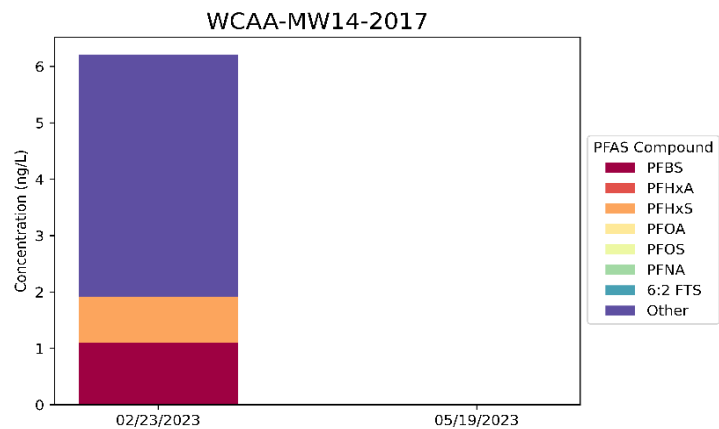
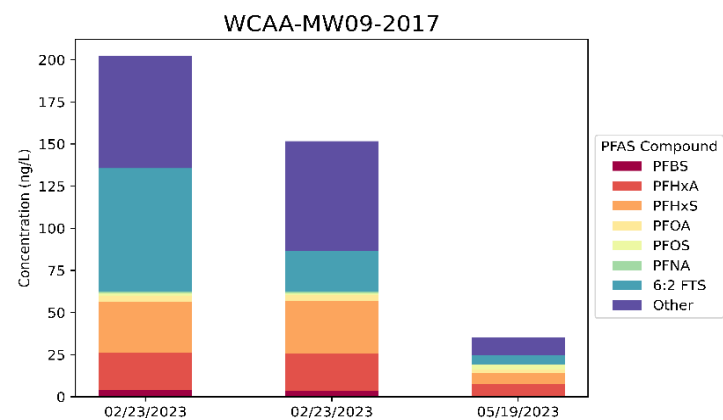
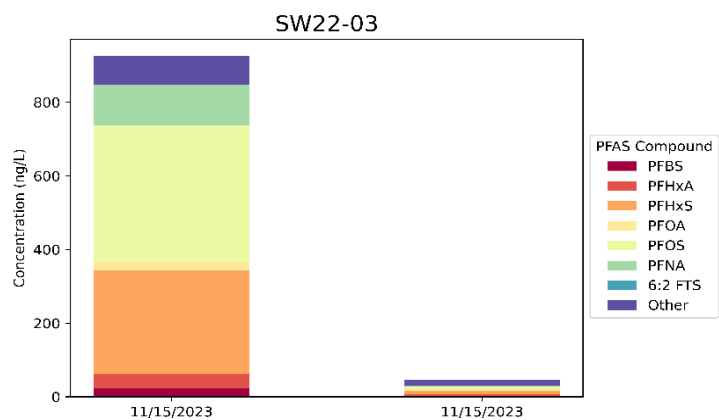
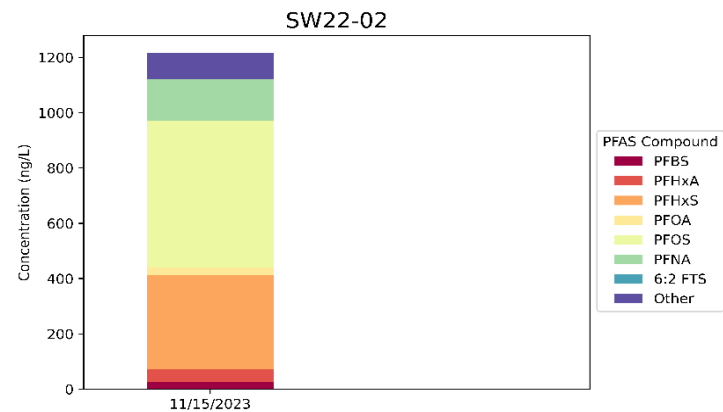
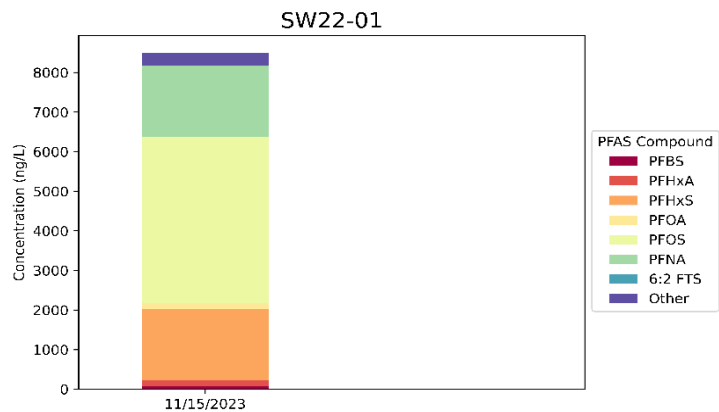






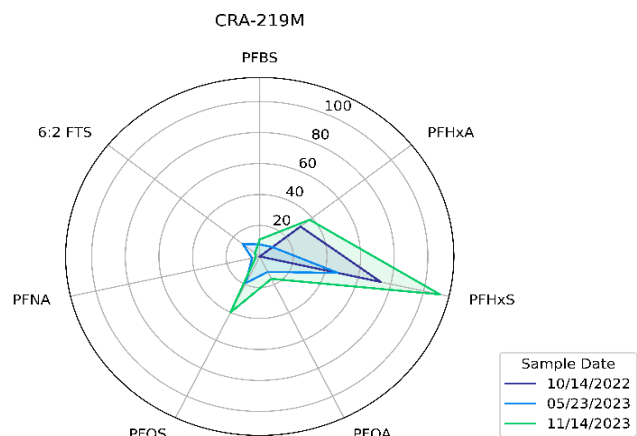
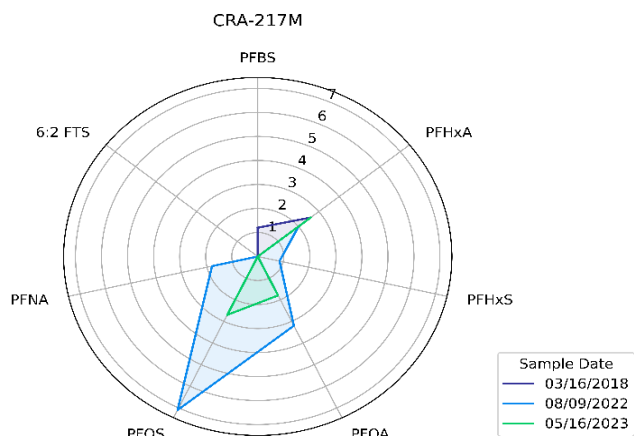
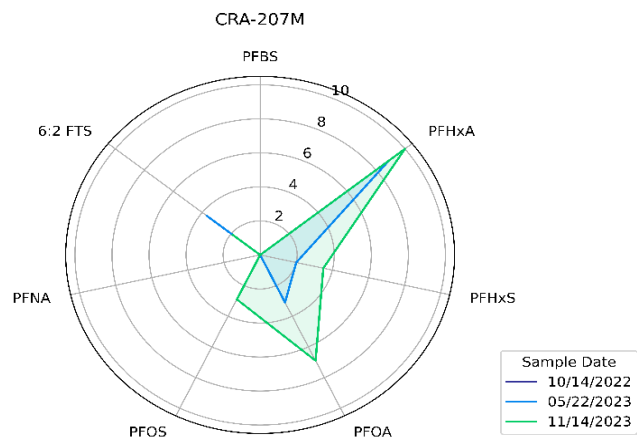
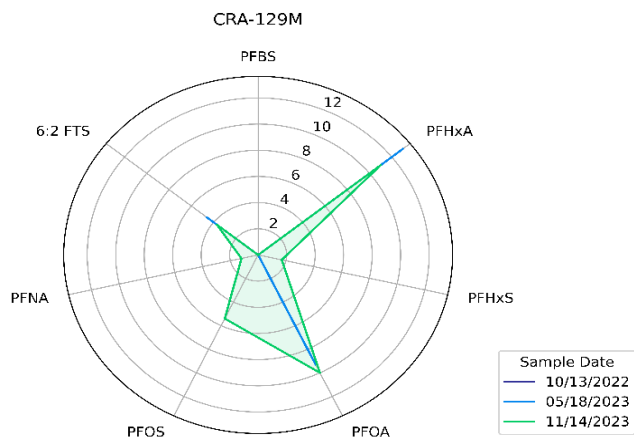
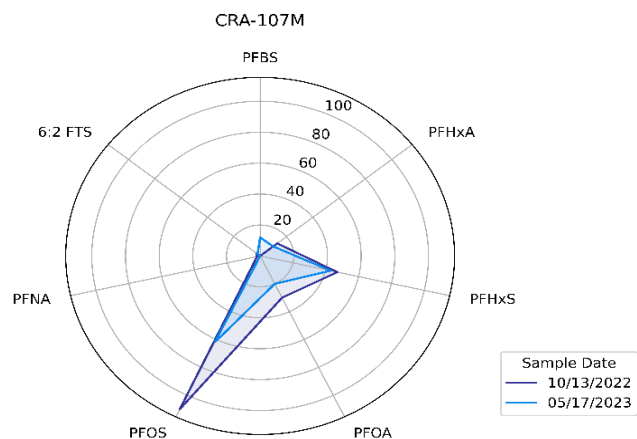
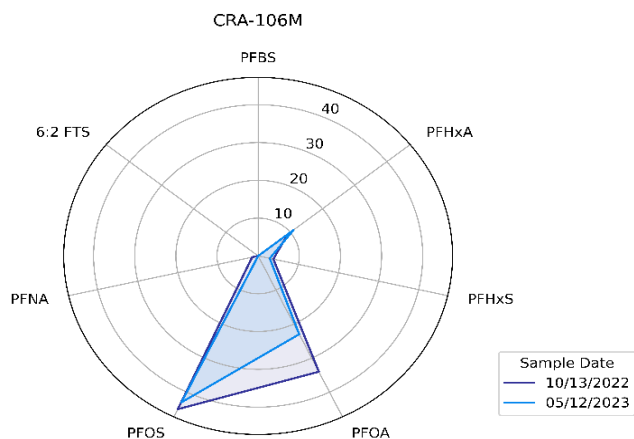
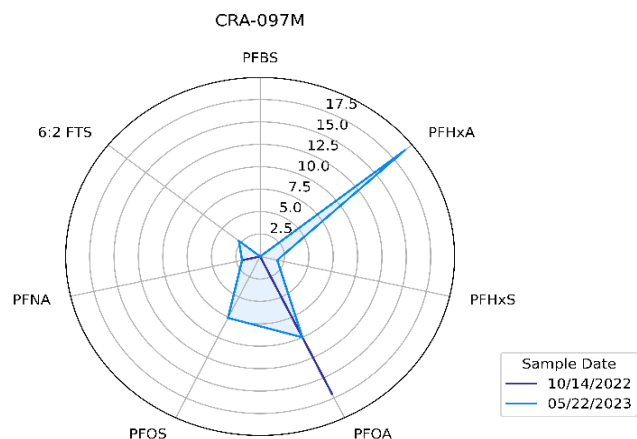
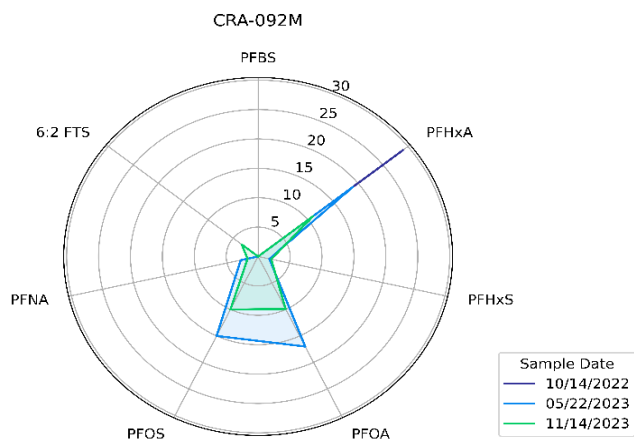


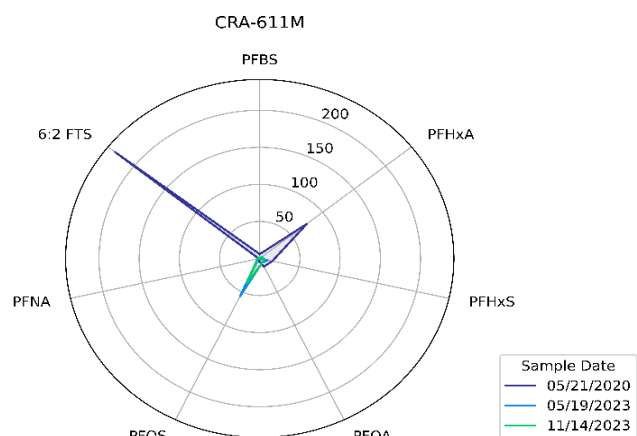
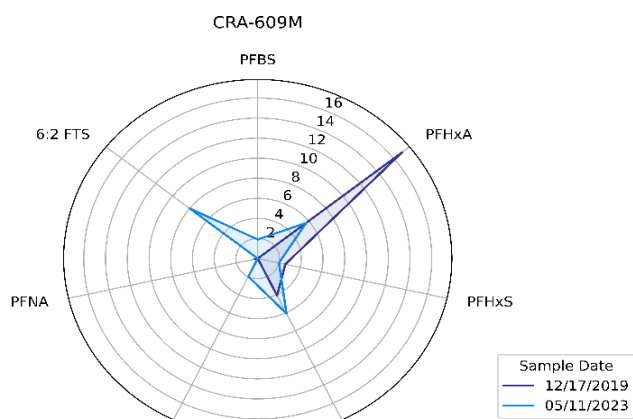
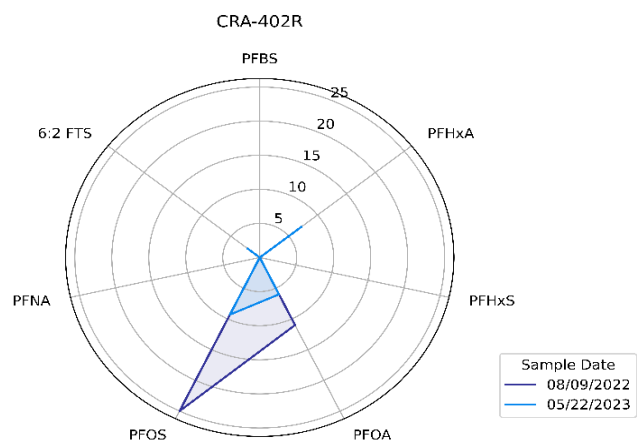
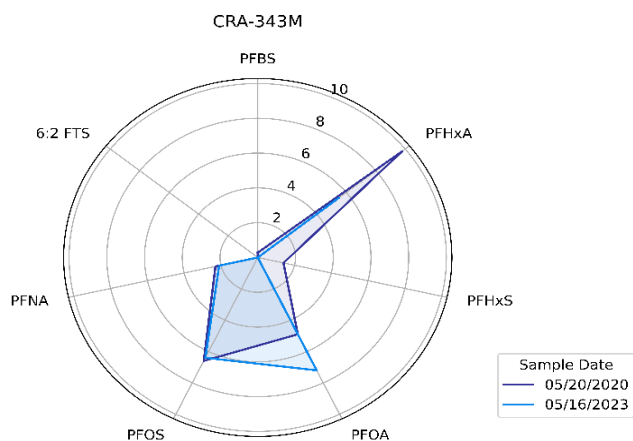
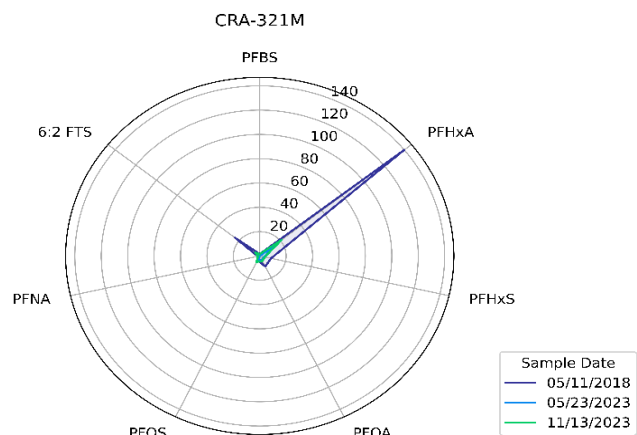
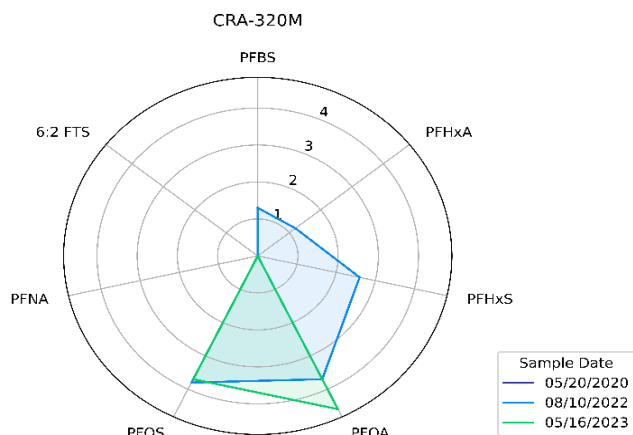
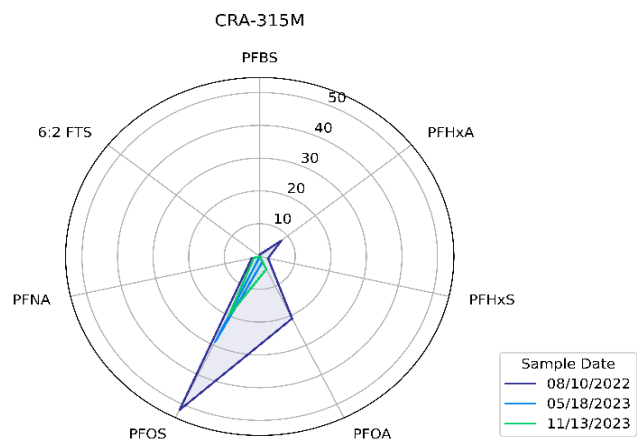
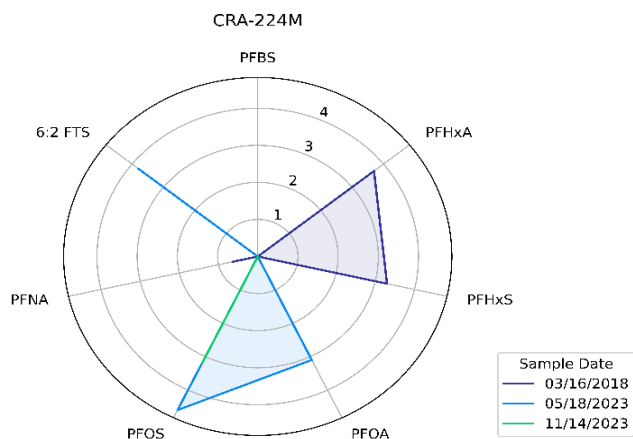


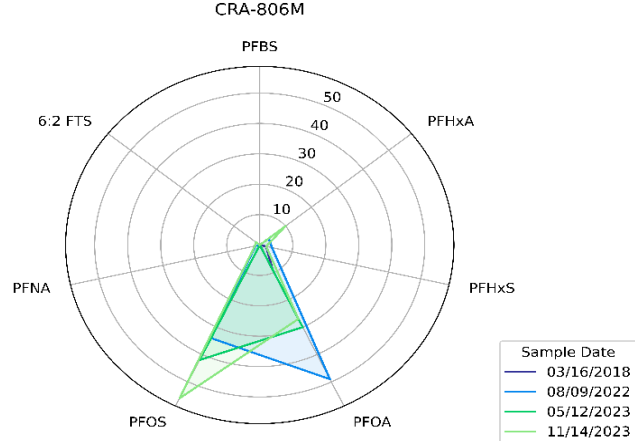
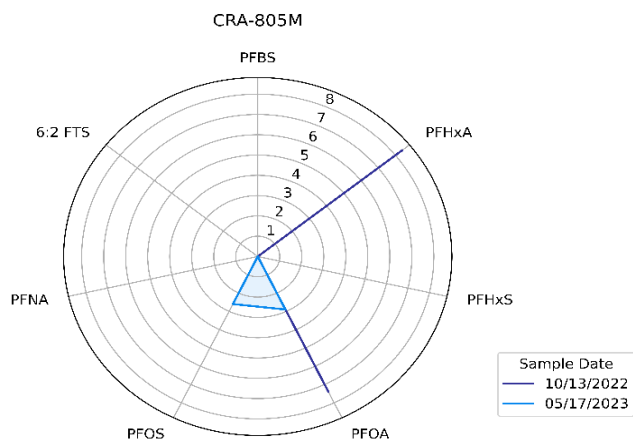
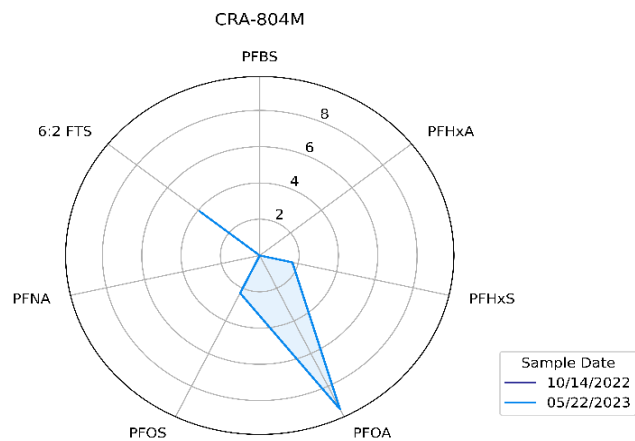
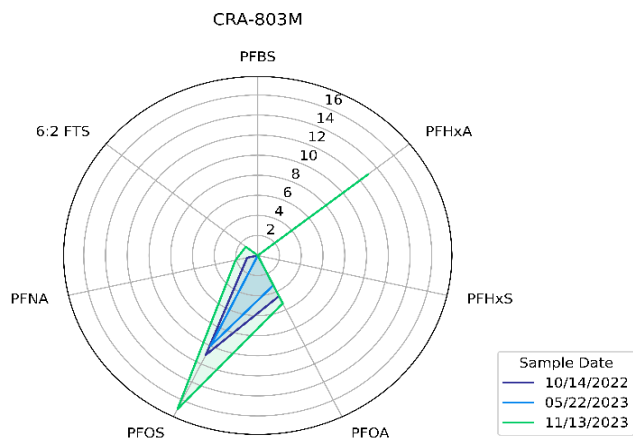
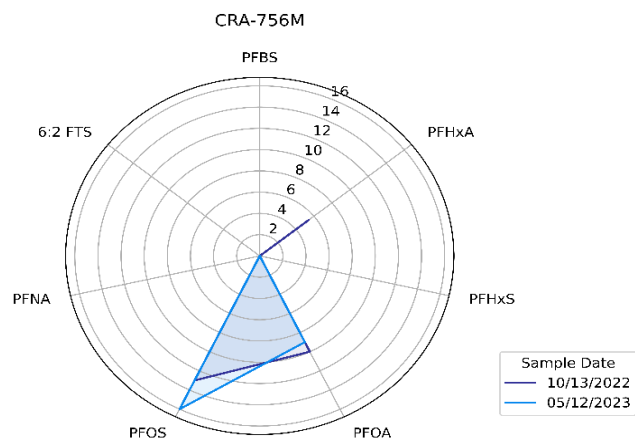
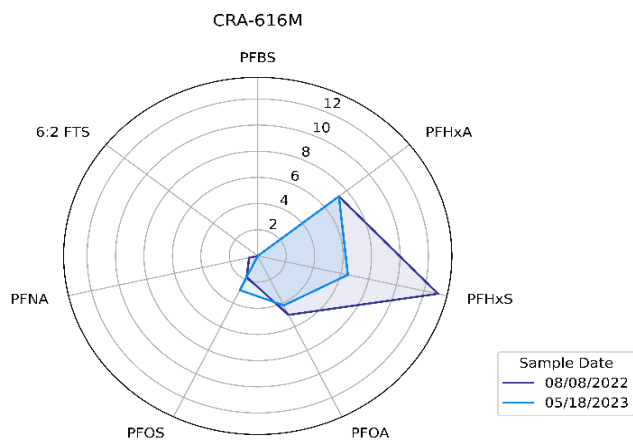
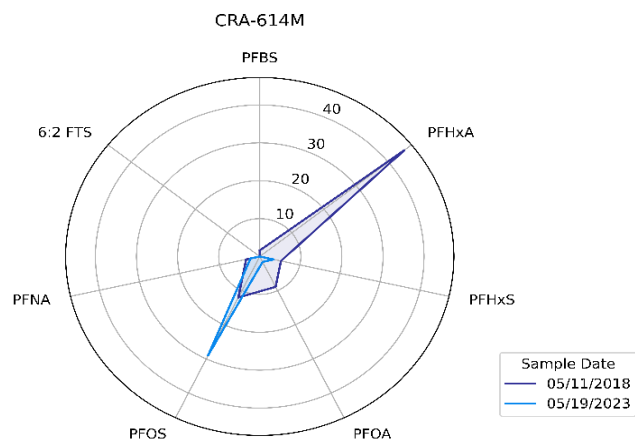
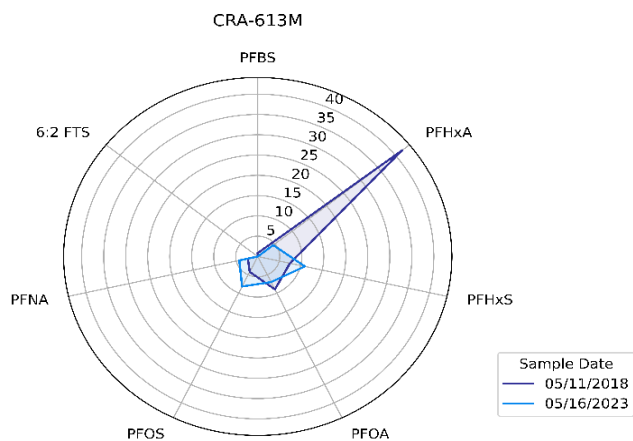


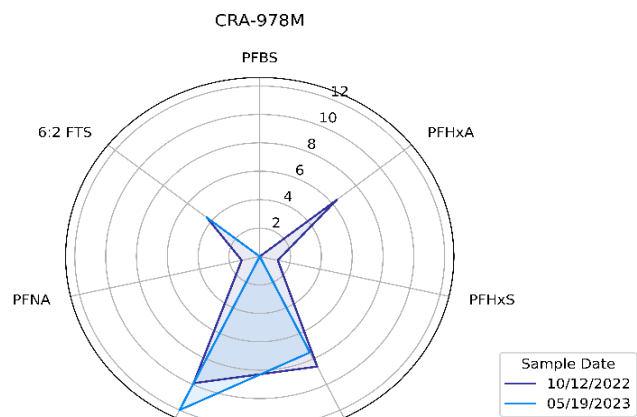
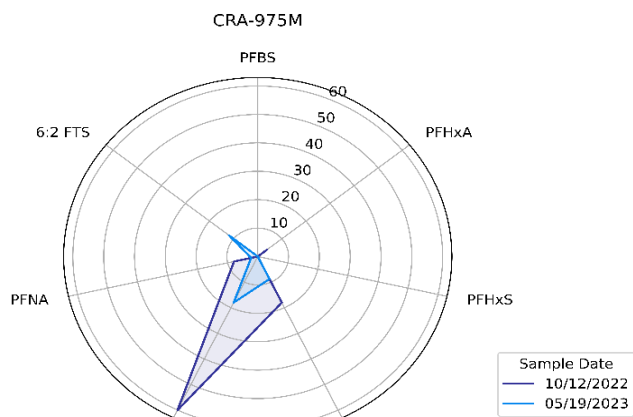
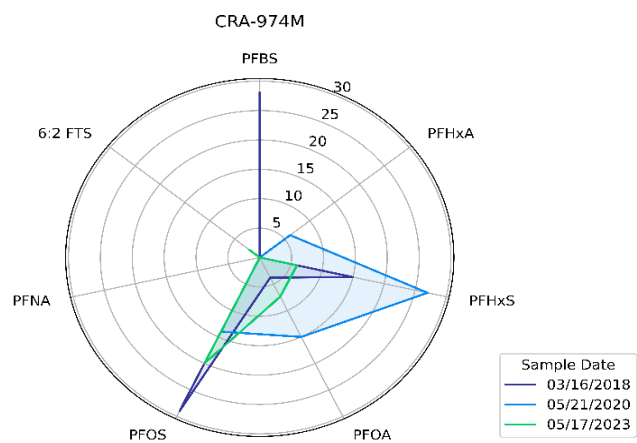
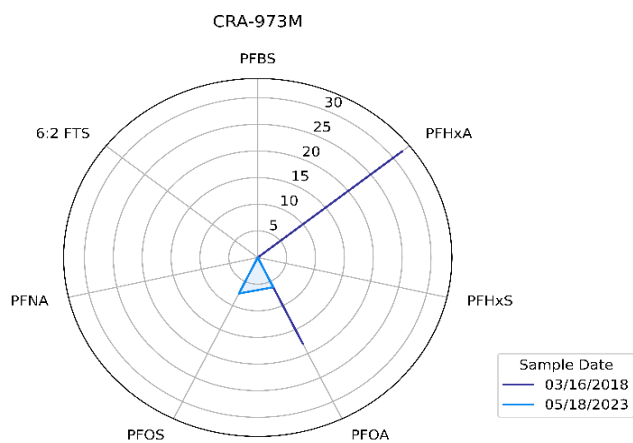
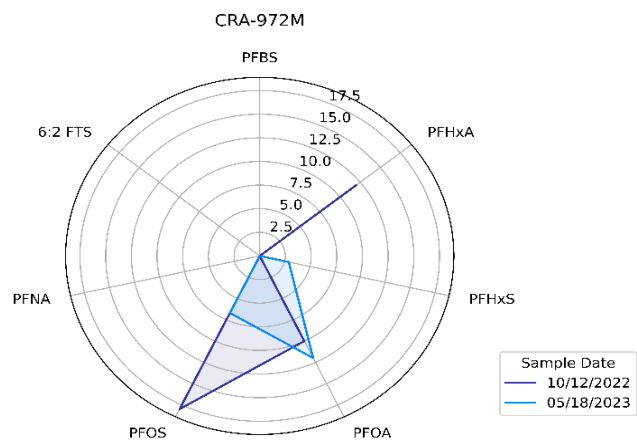
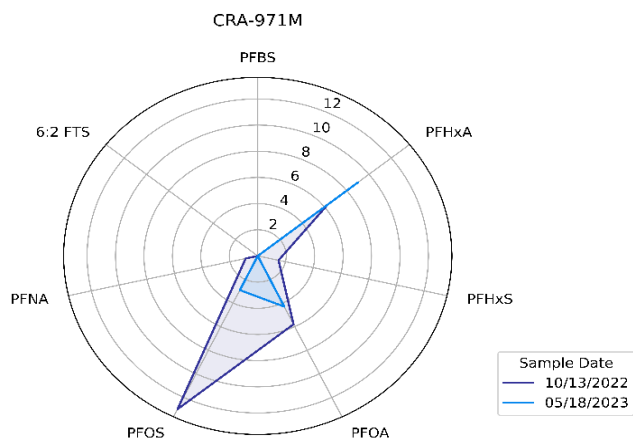
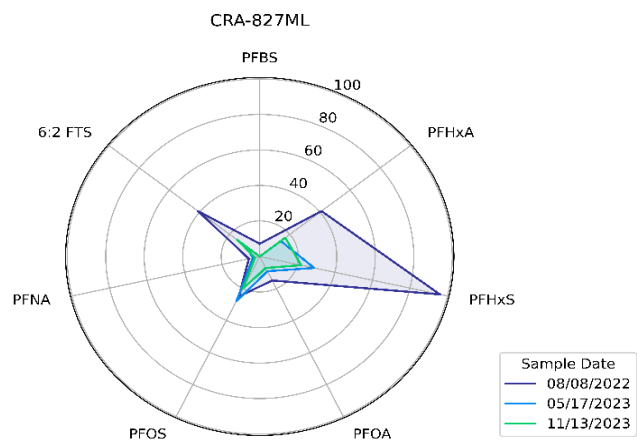
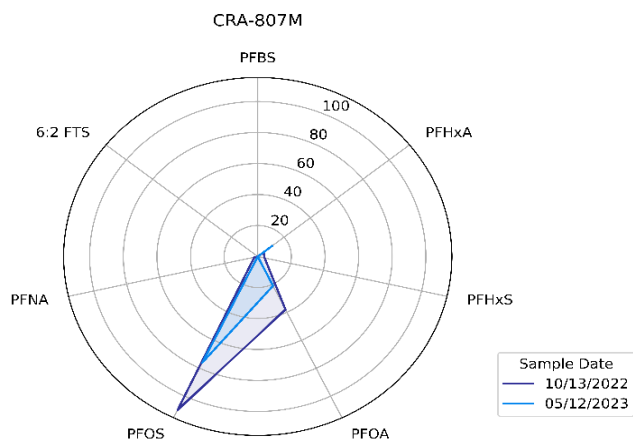
Appendix 2

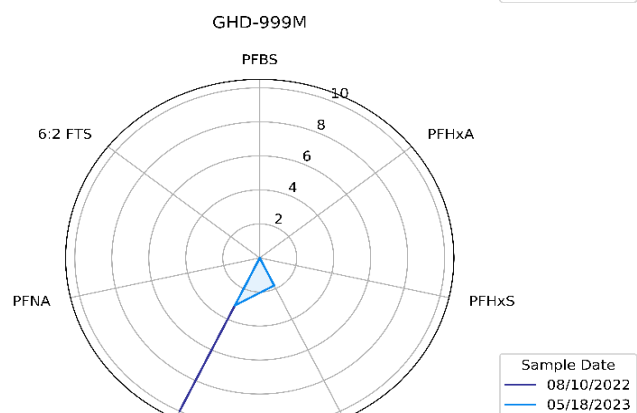
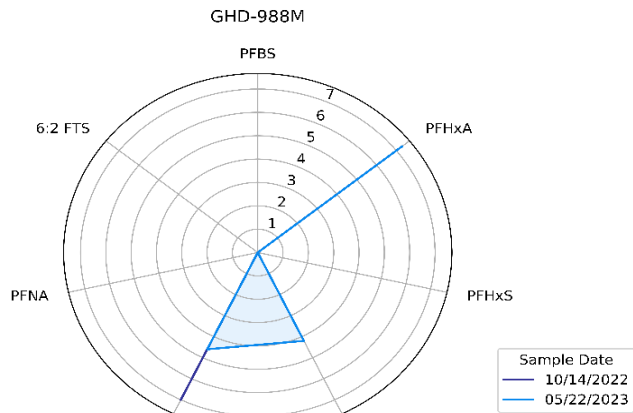
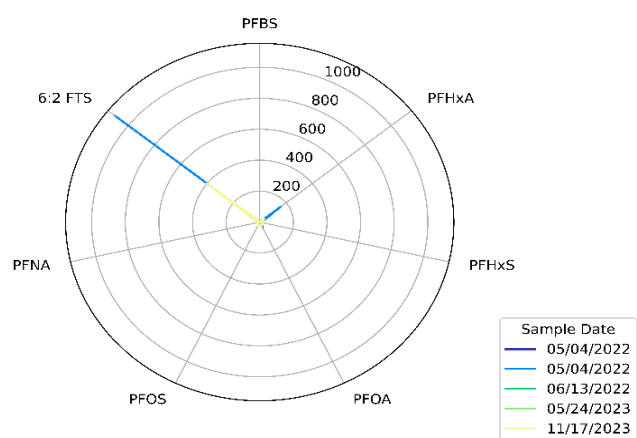
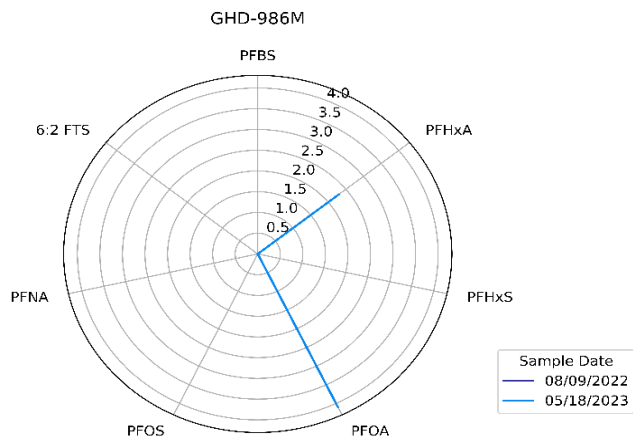
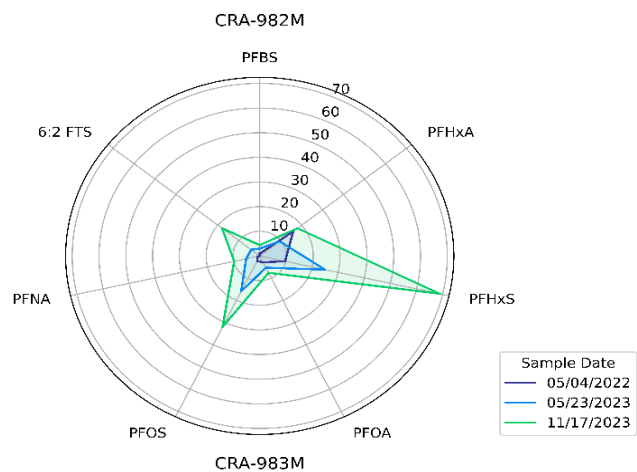
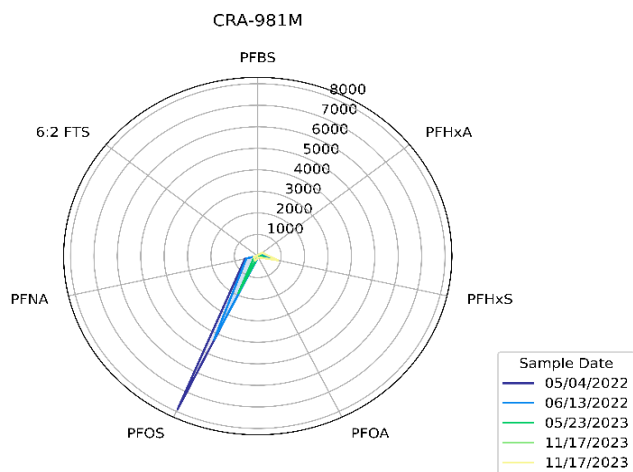
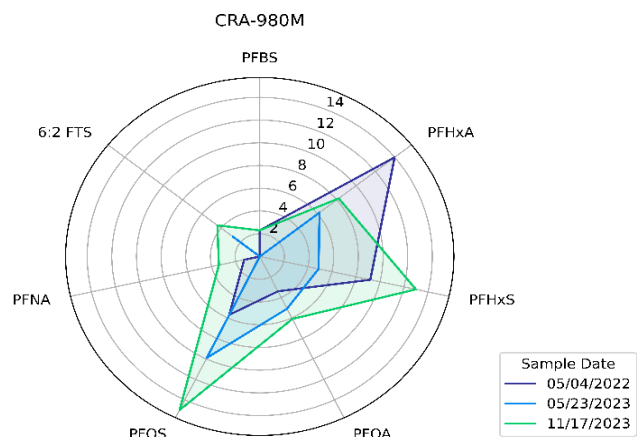
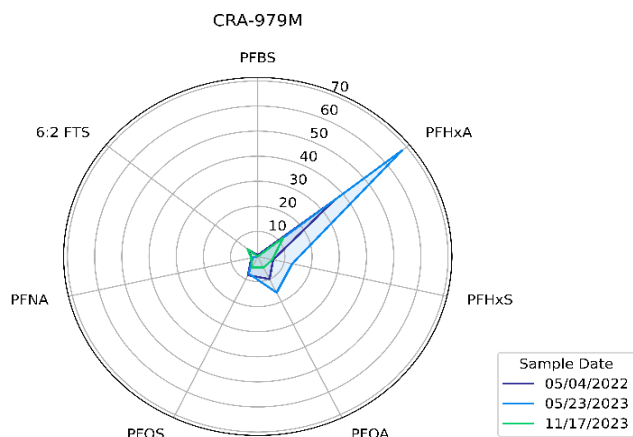
PFAS Results Stacked Radar Plots

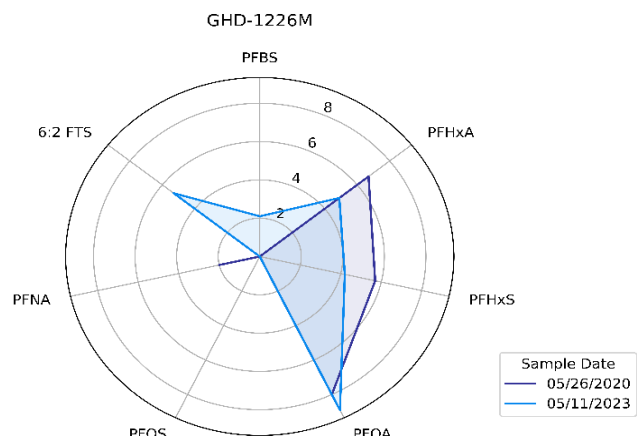
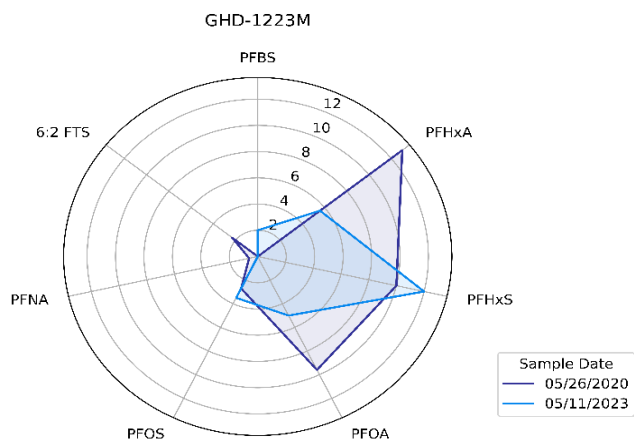
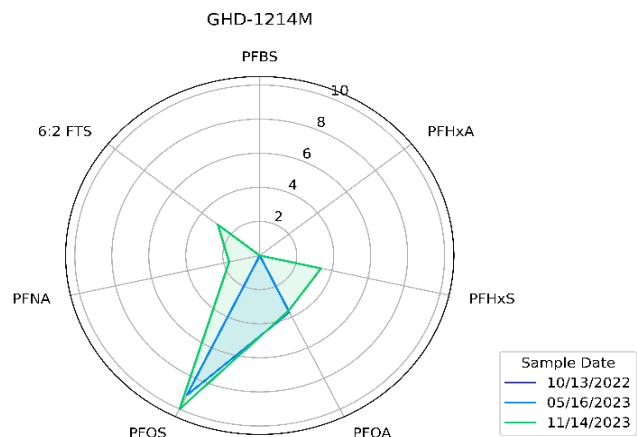
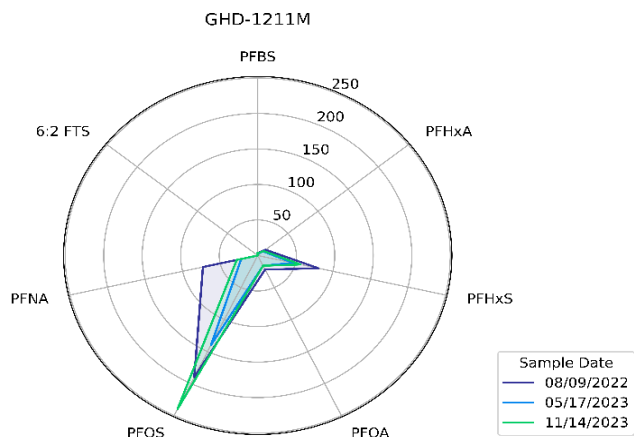
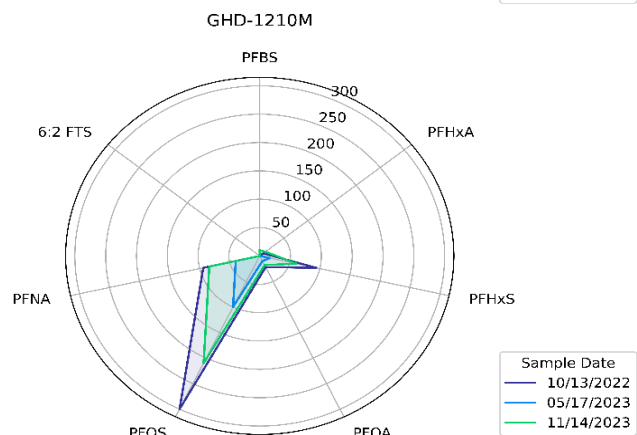
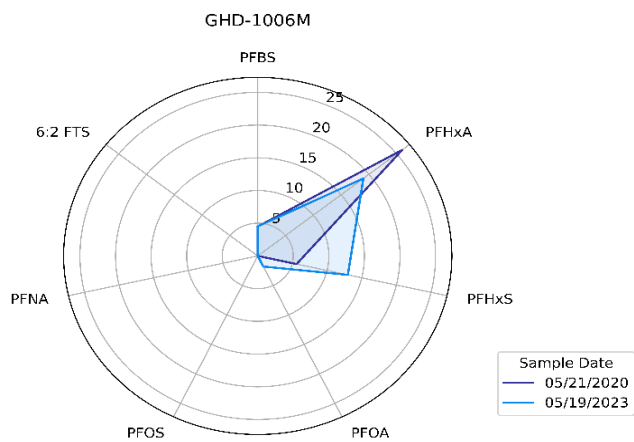
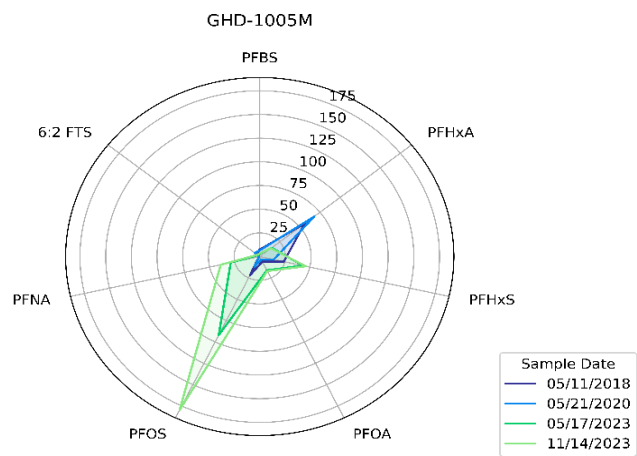
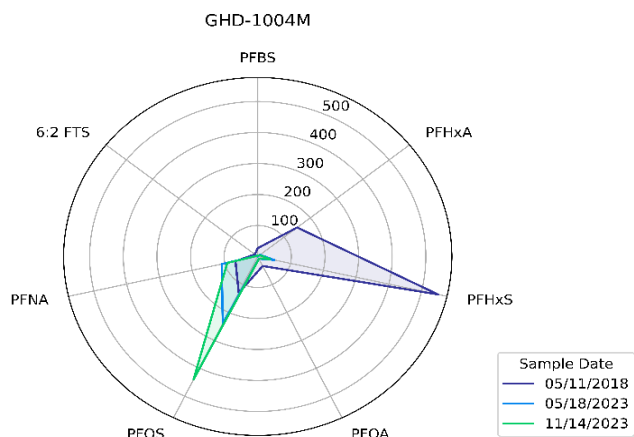


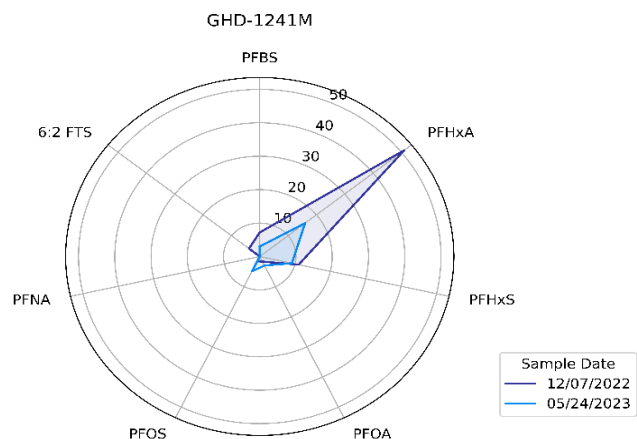
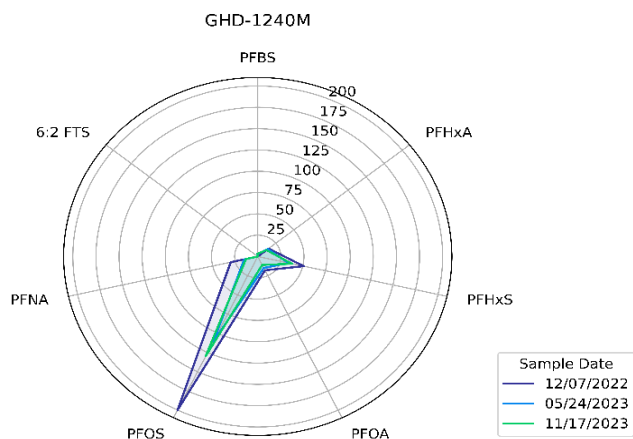
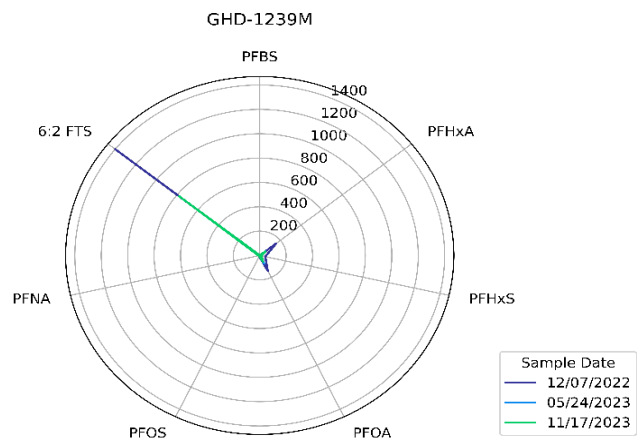
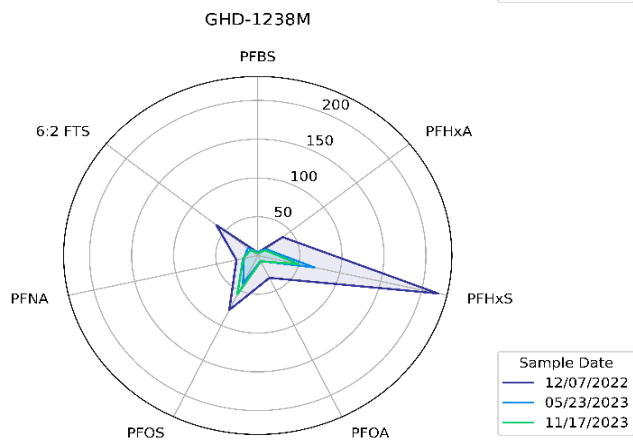
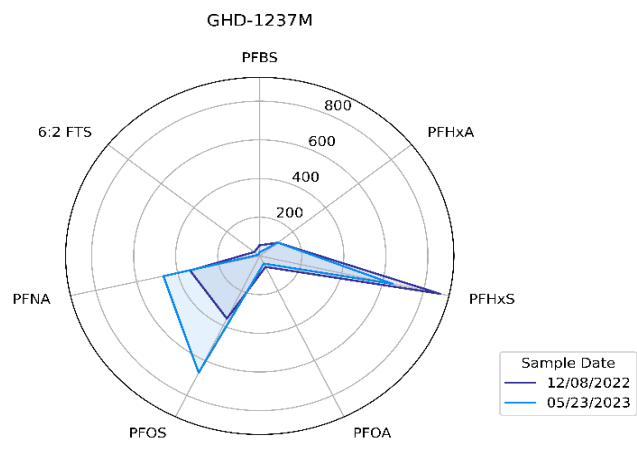
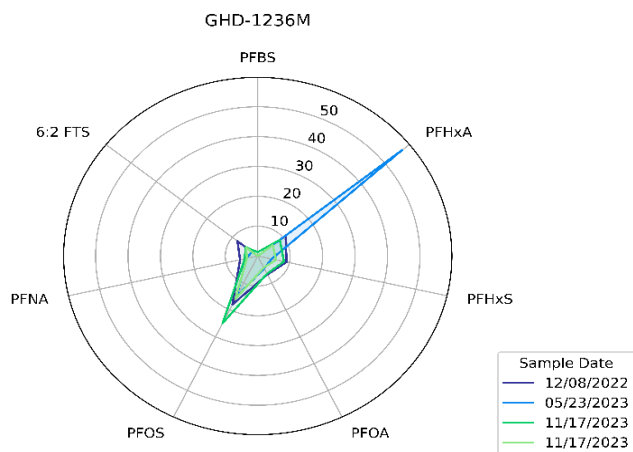
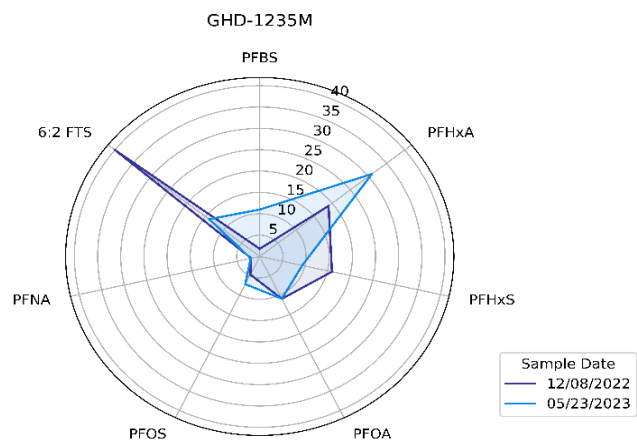
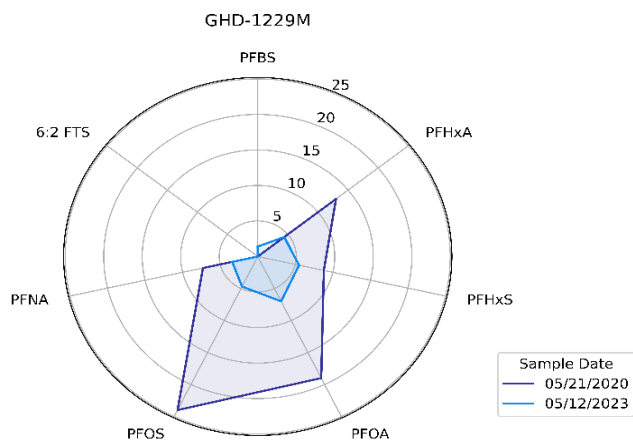




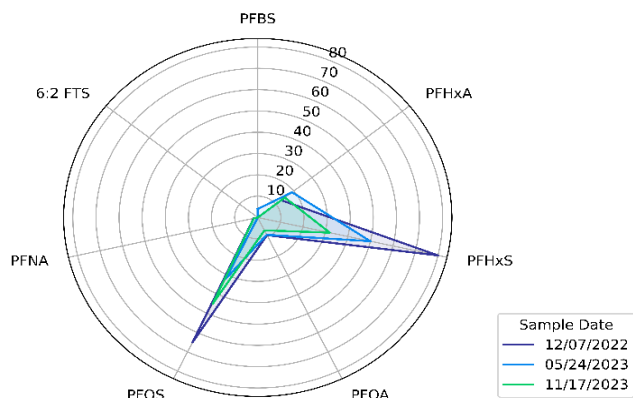




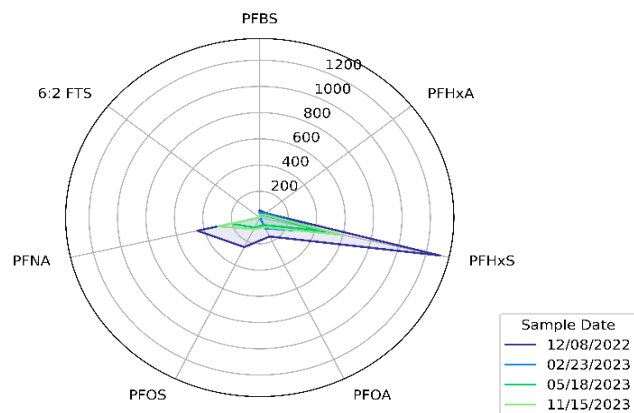




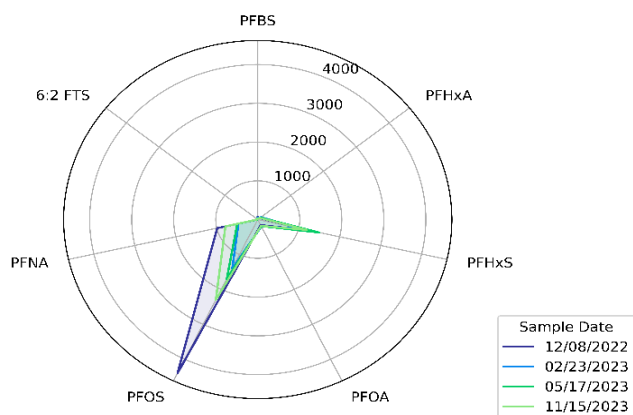
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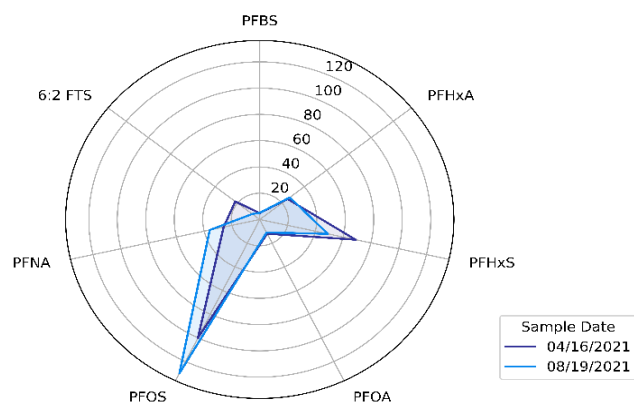
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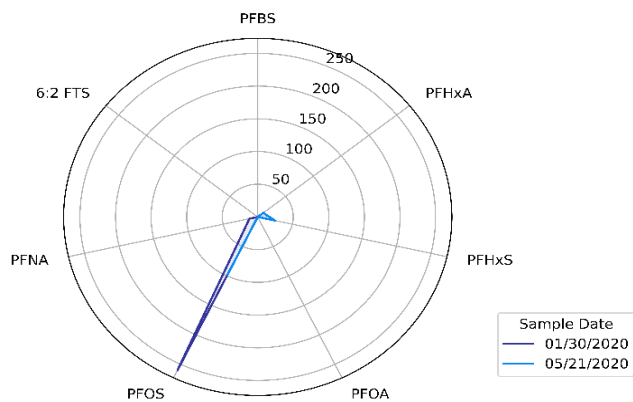
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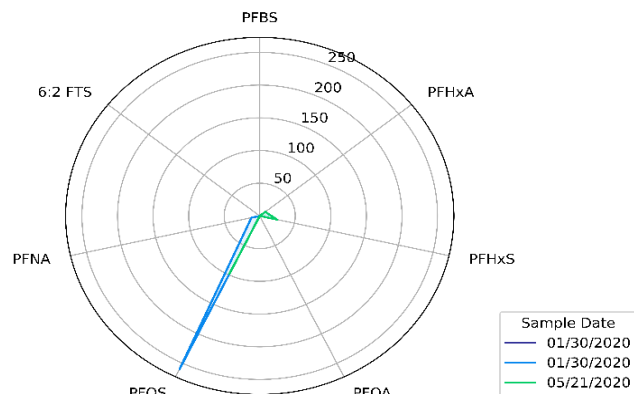
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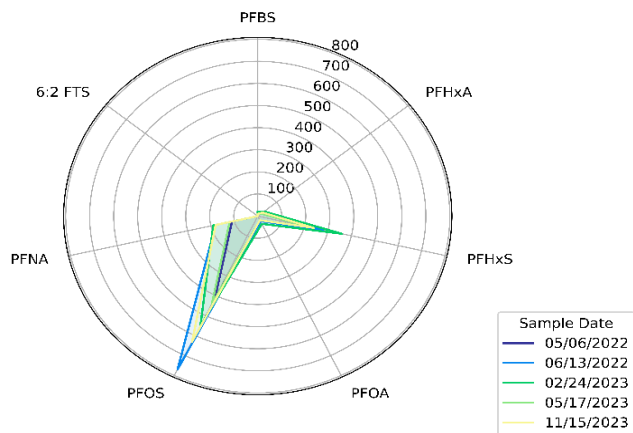
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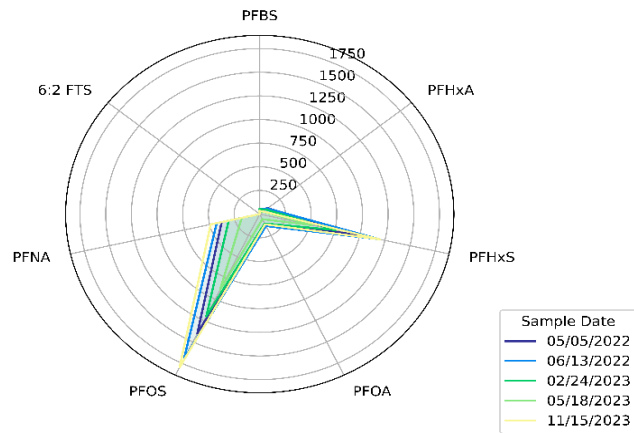
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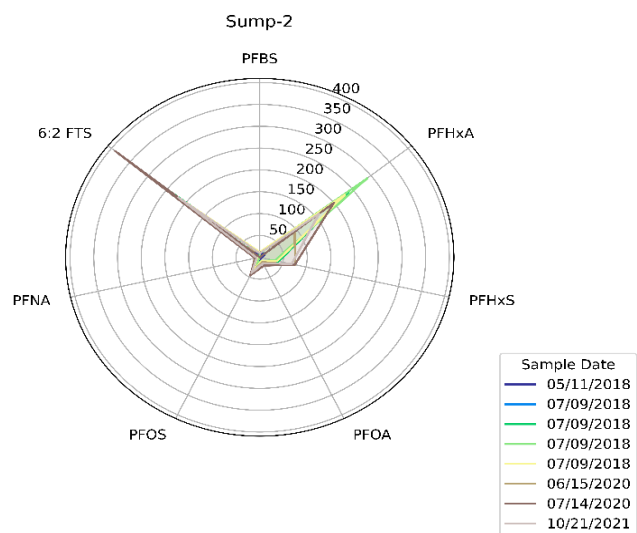
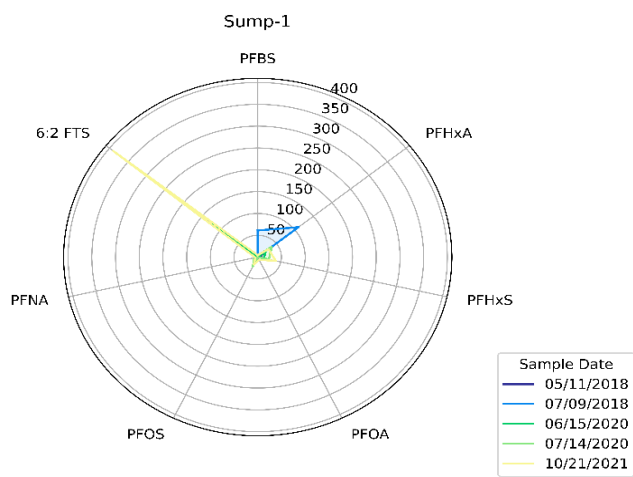
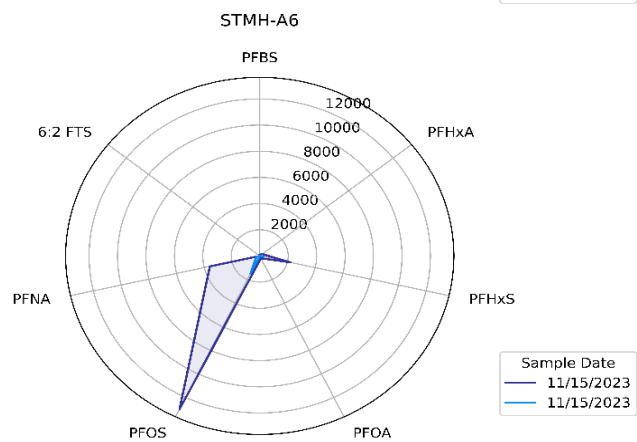
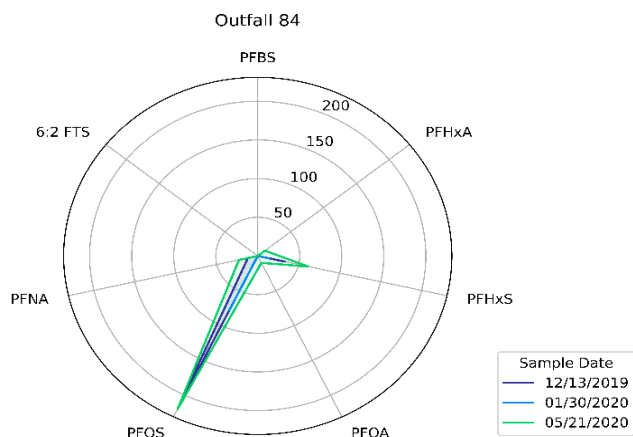
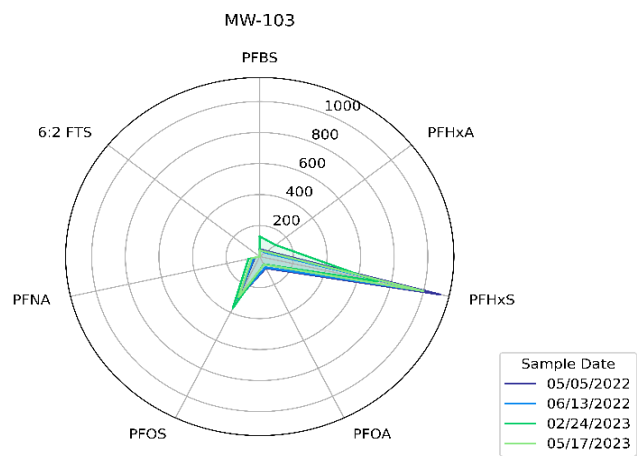
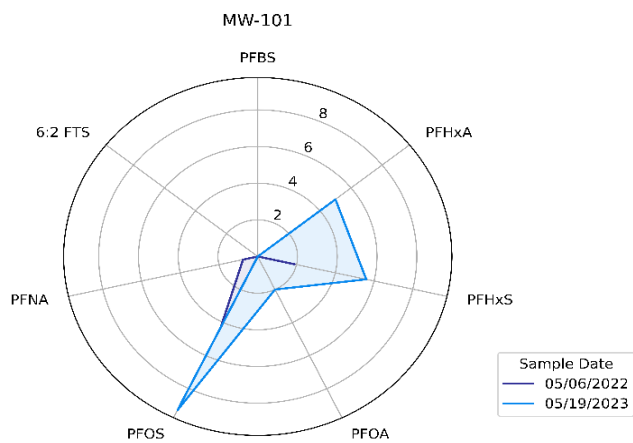


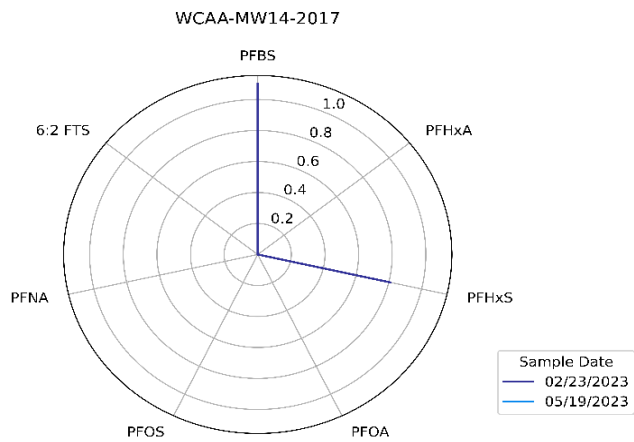
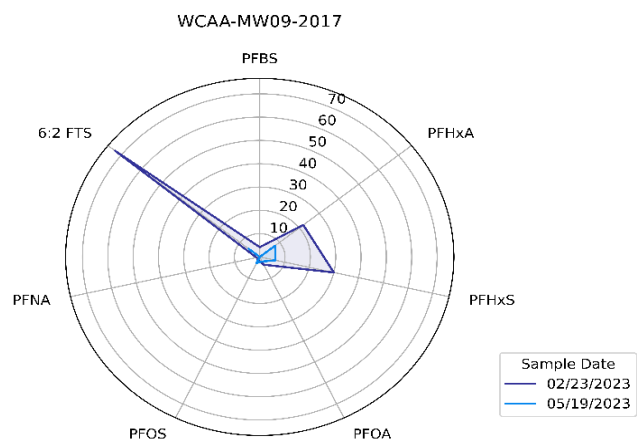
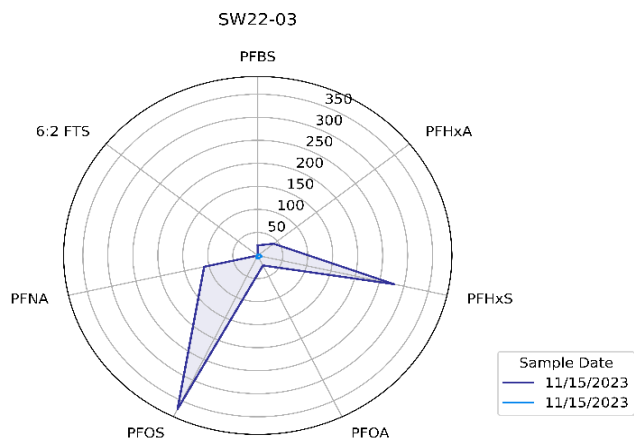
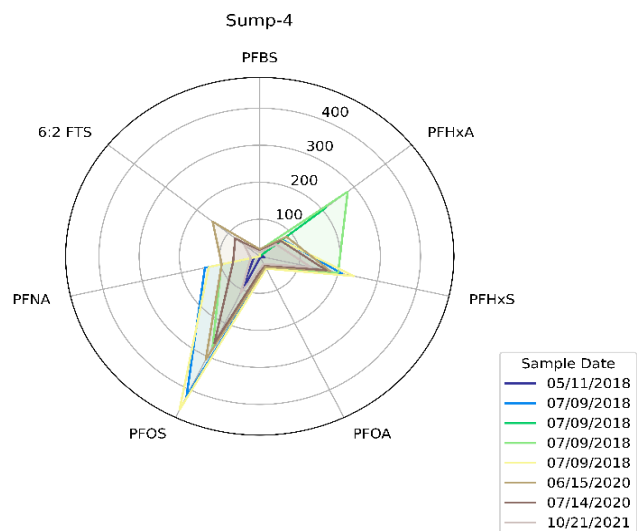
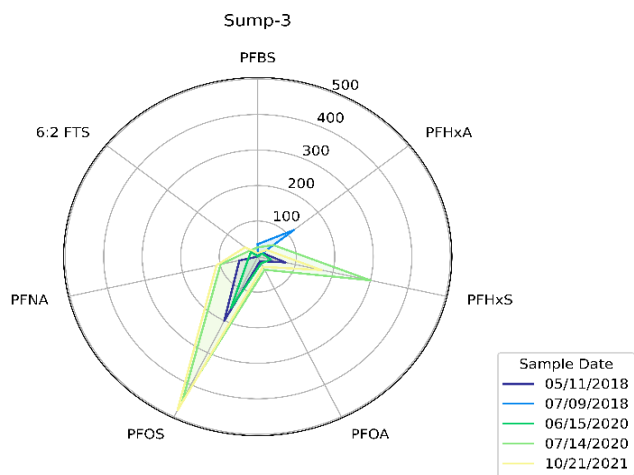
MW-6



MW-9









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