OBG|Baker Environmental Solutions Joint Venture

SITE INVESTIGATION REPORT FINAL

SAEGERTOWN PFAS SITE

CRAWFORD COUNTY, PENNSYLVANIA

PADEP Contract No.: SAP4000023226
General Environmental Technical Assistance Contract
Work Requisition No.: GTAC7-6-182

Prepared for:

Commonwealth of Pennsylvania
Department of Environmental Protection

Submitted by:

OBG | Baker Environmental Solutions Joint Venture
Moon Township, Pennsylvania

December 2025

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SAEGERTOWN BOROUGH
CRAWFORD COUNTY, PENNSYLVANIA

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Submitted to:

Commonwealth of Pennsylvania
Department of Environmental Protection
Northwest Regional Office
Environmental Cleanup Program
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NOTICE

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ACRONYMS AND ABBREVIATIONS

AFFF	Aqueous Film Forming Foam
Allprobe	Allprobe Environmental, Inc.
AWMSI	American Waste Management Systems, Inc.
bgs	below ground surface
C&D	Construction & Demolition
CVOC	Chlorinated Volatile Organic Compound
Department	Pennsylvania Department of Environmental Protection
EP	Entry Point
GATX	General American Transportation Company
GTAC-7	General Technical Assistance Contract (7)
HAL	Health Advisory Level
HFPO	Hexafluoropropylene oxide dimer acid (Gen-X)
HI	Hazard Index
HSCA	Hazardous Sites Cleanup Act
IDW	Investigation Derived Waste
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
mg/kg	milligram per kilogram
mg/L	milligram per liter
MSC	Medium-Specific Concentration
NAD	North American Datum
NAVD	North American Vertical Datum
ND	Non Detect
ng/L	nanograms per liter
NTU	Nephelometric Turbidity Unit
OBG | Baker	OBG | Baker Environmental Solutions Joint Venture
ORP	Oxidation Reduction Potential
PADEP	Pennsylvania Department of Environmental Protection
PFBS	Perfluorobutanesulfonic acid
PFNA	Perfluorononanoic acid
PFHxS	Perfluorohexanesulfonic acid
PFNA	Perfluorononanoic acid
PFOS	Perfluorooctane Sulfonate
PFOA	Perfluorooctanoic Acid
PFAS	Per- and Polyfluoroalkyl Substances

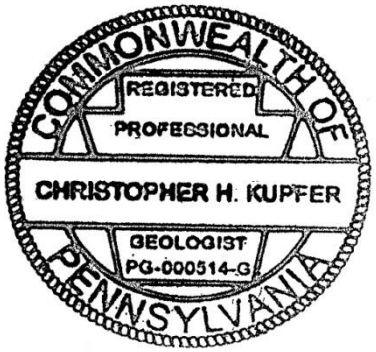
ACRONYMS AND ABBREVIATIONS (Continued)

PID	Photoionization Detector
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SBW	Saegertown Beverage Well
µg/L	microgram per liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound

SIGNATURE AND SEAL OF

PENNSYLVANIA PROFESSIONAL GEOLOGIST

Interpretations of geologic and hydrogeologic data were prepared under the direction and approval of a professional geologist licensed in the Commonwealth of Pennsylvania.



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December 16, 2025
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EXECUTIVE SUMMARY

OBG | Baker Environmental Solutions Joint Venture (OBG | Baker) has prepared this Site Investigation Report to present the findings of the investigation into soil and groundwater contamination at the Saegertown PFAS Site, located in Saegertown Borough, Crawford County, Pennsylvania. The investigation was conducted under the Pennsylvania Hazardous Sites Cleanup Act (HSCA) for the Pennsylvania Department of Environmental Protection (PADEP or Department). The primary focus of the investigation was to evaluate the presence, nature, and extent of Per- and Polyfluoroalkyl Substances (PFAS) contamination in soil and groundwater, particularly in relation to public water supply wells PW-6 and PW-7, which currently and historically have exhibited PFAS concentrations above regulatory criteria.

Site Background and Objectives

The Saegertown PFAS Site is situated within a former industrial park that was previously part of the Saegertown Industrial Area Superfund Site. Although the site was delisted in 1997 following remedial actions, concerns about PFAS contamination emerged in 2020 when the Department detected elevated levels of PFAS constituents including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in the Borough's drinking water supply. Subsequent sampling confirmed exceedances of the U.S. Environmental Protection Agency's (USEPA) Health Advisory Level (HAL) for the select PFAS in place at the time. These exceedances prompted the initiation of the site investigation. The objective of the site investigation was to identify potential PFAS sources, delineate the contaminant plume, and assess the impact on soil and groundwater.

Key Findings – Soil Investigation

A total of 34 soil samples were collected from 15 borings advanced across the site. PFOS was the most frequently detected PFAS constituent, exceeding Pennsylvania Residential and Non-Residential Medium-Specific Concentrations (MSCs) in approximately one-quarter of the samples. Elevated PFOS concentrations were observed both at the surface and at depth, with the highest concentration [440 micrograms per kilogram (µg/kg)] detected at seven feet below ground surface in boring SB-4. Although the impacted soil area spans approximately two acres south of the Saegertown Borough Municipal Building and the Saegertown Fire Department, it is believed the primary source area impacting the overburden aquifer is significantly smaller.

The source release and conditions to cause the distribution of PFOS impact in soil is unclear. Although it is believed a contaminant source exists in the vicinity of borings SB-2, SB-4, SB-9, and SB-12, the wide distribution of PFOS impact to surface soils over the multi-acre area in multiple directions cloud the source and mechanism of the impact.

Other PFAS compounds, including perfluorobutanesulfonic acid (PFBS), PFOA, and PFHxS, were detected at lower concentrations in soil, suggesting a legacy contamination source potentially linked to historical use of Aqueous Film Forming Foam (AFFF) by the fire department.

Key Findings – Groundwater Investigation

Groundwater sampling included 25 grab samples and two rounds of monitoring well sampling from the wells. PFOS remained the primary PFAS constituent of concern, with concentrations exceeding criteria in more than 50% of the wells. The highest PFOS concentration [36,000 nanograms per liter (ng/L)] was detected in monitoring well BMW-3 during the March/April 2025 sampling event. Other PFAS compounds, including PFHxS, PFOA, and PFNA, also exceeded criteria in multiple wells.

The groundwater flow direction is generally toward French Creek and is influenced by the Borough's potable wells when actively pumping. Two distinct PFAS plumes were identified during the investigation, one originating south of the fire department and Borough building, and another on the adjacent Parker Lord property. It is not believed the two plumes are comingling at the present time.

Data Trends and Contaminant Sources

Historical data from Borough wells PW-6 and PW-7 indicate oscillating PFAS concentrations, with a recent rebound in 2024 to levels not seen since 2021. PFAS concentrations in PW-7 were consistently higher than PW-6, suggesting closer proximity to the contaminant source described above. The presence of legacy AFFF compounds, combined with newer PFAS formulations like PFBS, indicates a continual or periodic source of contamination spanning several decades. Potential contaminant sources include firefighter training activities and historical industrial practices.

Recommendations

Further investigation (i.e., Phase II Site Investigation) is recommended to refine the extent of soil and groundwater contamination. Proposed Phase II investigation activities include:

- Advancing shallow soil borings in a gridded area near borings SB-2, SB-4, SB-9, and SB-12 to delineate PFOS impact.
- Collecting groundwater grab samples to guide monitoring well placement and assess plume migration toward French Creek.
- Installing additional groundwater monitoring wells to delineate the PFAS plume in groundwater, particularly to the north, northwest, and west of the site.
- Establishing sentinel wells near French Creek to monitor potential impacts on surface water.

Conclusions

The investigation has provided valuable insights into the nature and extent of PFAS contamination at the Saegertown PFAS Site. However, additional investigative work is needed to fully delineate the contaminant plume and refine the understanding of source areas. The findings will be used as the basis for evaluating and implementing future remedial actions to protect public health and the environment.

1.0 INTRODUCTION

OBG | Baker Environmental Solutions Joint Venture (OBG | Baker) has prepared this Site Investigation Report for the Pennsylvania Department of Environmental Protection (PADEP or Department) as authorized by PADEP Work Requisition, Number 7-6-182, Contract Number SAP4000023226 (GTAC-7), pursuant to the Pennsylvania Hazardous Sites Cleanup Act (HSCA), Act 108, October 18, 1988.

The Site Investigation Work Plan (OBG | Baker, September 2023) was the framework used to perform the comprehensive investigation of the soil and groundwater media at the Saegertown Per- and Polyfluoroalkyl Substances (PFAS) Site (site), located in Saegertown Borough, Crawford County, Pennsylvania (Figure 1). The Work Plan was prepared based on a review of available historical information and a scoping meeting/site visit with the Department in 2022 and the findings from the subsequent two comprehensive groundwater sampling events completed in October 2022 and January 2023.

The Site Investigation Work Plan strategies and methodologies are initially presented in this report with the latter part of the report focusing on the findings from the investigation, as well as conclusions and recommendations moving forward.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Site Description

The Saegertown PFAS Site is located in a former industrial park in Saegertown Borough, Crawford County, Pennsylvania. The property was formerly owned by the General American Transportation Company (GATX) and had been declared a U.S. Environmental Protection Agency (USEPA) Superfund Site in 1993 until a remedial action was completed in 1996, and the site was delisted in 1997. The site is within the historical boundaries of the Saegertown Industrial Area Superfund Site but is on a parcel that was remediated by USEPA and released for unrestricted use. The remaining active portion of the Superfund Site is the adjacent Parker Lord property.

For purposes of this report, 'on site' will be considered all areas south of Erie Street, north of well OB-6-100, east of the Erie-Lackawana Railroad, and west of Switch-N-Go (see Figure 2 – Site Features). All other areas, including the Parker Lord facility and the neighboring properties west of the railroad and north of Erie Street are considered 'off site'. All monitoring and pumping wells (borough potable wells) shown in Figure 2 were installed prior to the initiation of the site investigation.

2.2 Site Background

The Department is aware that Parker Lord has Chlorinated Volatile Organic Compound (CVOC) groundwater contamination issues but was previously unsure if they also had PFAS contamination issues. Parker Lord uses between 80 - 89% of the water pumped from all the Saegertown Borough supply wells.

Saegertown Borough purchased the delisted property and started work on installing and permitting two public water supply wells (PW-6 and PW-7) on the property around 2008. The two wells were approved by the Department for construction in July 2010, and for operation in October 2011.

Although it was reported that multiple sludge ponds were remediated by the USEPA (shown on historical drawings), the Department believed those were points of interest warranted further investigation. The sludge pond source was believed to be from washing out rail cars over several years.

In October 2020, representatives from the Department's Bureau of Safe Drinking Water conducted a site visit at the Borough's water system to collect samples to be analyzed for the presence of PFAS in the drinking water supply. PFAS is a large group of man-made chemicals that include Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA). The samples were analyzed by the Department's Bureau of Laboratories.

The results of the sampling indicated PFOS levels of 187.1 nanograms per liter (ng/L) and PFOA levels of 5.5 ng/L for a total of 192.6 ng/L of PFAS at Entry Point 105, which is an entry point to the general drinking water distribution line that consists of water collected alternately from either PW-6 or PW-7.

At the time of the collection, water was being pumped from PW-6. The sum of the analytical results exceeded the USEPA's Combined Lifetime Health Advisory Level (HAL) for PFOS and PFOA of 70 ng/L at the time. None of the Borough's other entry points had detections of PFAS.

Samples were also collected from both PW-6 and PW-7 in November 2020 with both wells exhibiting exceedances of the combined HAL with concentrations of 90 ng/L and 174.8 ng/L, respectively. Per Department mandates, the Borough completed follow up confirmation sampling. In January 2021, the Borough collected a sample from Entry Point 105, which was again using PW-6 at the time of sampling. The results indicated PFOS levels of 120.0 ng/L and PFOA levels of Non-Detect (ND) for a total of 120.0 ng/L of PFAS. This total confirmed an exceedance of the USEPA HAL for PFOS and PFOA at Entry Point 105 receiving water from PW-6.

Quarterly sampling of the wells has been completed since the PFAS detections. The initial event was completed by the Department, and all ensuing events have been completed by Groundwater Resources, LLC (Borough consultant). Samples from Saegertown Borough wells PW-6 and PW-7 are identified as Entry Point ('EP') -105 sample ID (Note; effluent is from each well, is not blended, and operates independently of each other). The 'EP' samples were collected after chlorination of the line and were collected from a spigot in the adjacent fire department building. Observation wells near wells PW-6 and PW-7 were installed to monitor drawdown when pumping tests were performed on wells PW-6 and PW-7. Pumping tests were part of the drinking water permit process and not part of the investigation.

PFAS concentrations in PW-6 have remained stable and consistent with other recent historical concentrations. PFAS concentrations in PW-7 have been noticeably higher than PW-6 recently.

A Department presentation during the site kickoff described potential PFAS sources as the firefighter training area and three former sludge lagoons (use of PFAS for training has not been substantiated). The Department did not rule out there could be other PFAS sources in the site area.

OBG | Baker was directed to complete two comprehensive groundwater sampling events of the 14 applicable wells on site in October 2022 and January 2023. Findings from the sampling indicated that PFOS continues to be the primary PFAS constituent of concern on site and there may be multiple source areas of PFAS contamination flowing ultimately toward French Creek. These findings were the foundation of the site investigation activities described in the ensuing sections of this report.

3.0 SOIL INVESTIGATION ACTIVITIES

3.1 Soil Boring Locations

A total of 15 soil borings were advanced as part of the investigation. Drilling activities were completed by Allprobe Environmental, Inc. (Allprobe) with the OBG | Baker on-site geologist providing oversight and direction. The 15 borings (SB-1 through SB-14, and SB-18 on Figures 3 and 4) were advanced in areas to aid in identifying potential PFAS contaminant source areas. As shown on the figures, some of the soil borings (SB-6, SB-7, SB-9, SB-10, SB-11, SB-14, and SB-18) were also locations of groundwater grab samples as part of the overall groundwater investigation. Field activities for this phase of the investigation were initiated on October 1, 2024, and were completed on October 10, 2024.

It should be noted that the soil boring and groundwater grab locations shown on the referenced figures are considered accurate as they were field surveyed with a handheld GPS unit upon completion of the field activities. All soil boring logs for the investigation are provided in Attachment A.

3.2 Soil Boring Advancement and Sample Collection

A direct-push drilling rig (Geoprobe® or similar) was utilized to collect Macro-Core samples of unconsolidated material in the overburden in an attempt to identify potential PFAS source areas and also for lithologic descriptions. New, inner acetate sample sleeves were used for each driven Macro-Core. The drive shoe was cleaned with detergent and potable water between borings.

The samples were collected continuously in five-foot increments from the ground surface to the desired depth. Due to the unconsolidated nature of the overburden soils (e.g., sand, silt, gravel), an outer four-inch diameter surface casing was advanced during boring advancement to mitigate borehole collapse during sample acquisition.

The sampling was conducted as summarized below:

1. Push the sampling device (Macro-Core or equivalent) to the desired depth.

2. Bring the sampler to the surface, remove the acetate liner from the sampler, and drill small-diameter holes or cut slits in the liner at approximate one-foot intervals for field screening using the Photoionization Detector (PID).

3. The field screening was conducted by inserting the tip of the PID wand into the drilled holes. The highest reading for each interval was recorded in the field logbook.

4. Upon completion of the field screening, slice the liner completely with a cutting tool to expose the sample core.

5. Thoroughly homogenize the applicable sample interval for analysis to ensure that the sample is as representative as possible of the sample interval.

6. Transfer the proper sample volume into appropriate laboratory-supplied containers and place the sample in a cooler with ice.

7. Record all pertinent sampling information such as soil description, sample depth, sample number, sample location, and time of sample collection in the field logbook.

Subsequent to sampling, the boreholes were backfilled with drill cuttings, and any remaining void was backfilled with bentonite to the ground surface. If the boring was also the location of a designated groundwater grab sample, the backfilling activities were completed after collection of the groundwater grab sample.

3.3 Soil Sample Selection Methodology

Generally, two soil samples were selected for chemical analyses from each of the direct push borings, as follows:

- One worst-case sample based on PID readings and/or visual evidence of staining/odor (with understanding that VOC contamination could be used as a marker to aid in PFAS transport under worst case scenarios).

- One "clean" sample from below the contaminated zone as determined in the field based on PID readings and/or visual evidence of staining/odor.

In lieu of any detected PID readings or visual evidence of staining/odor, the default samples for laboratory analyses generally were collected from the ground surface (0 - 1 ft. below ground surface [bgs]) and directly above the soil-groundwater interface. Each of the soil samples was analyzed for the designated 40 PFAS constituents only using Method 1633 (Table 1).

In lieu of any detected PID readings or visual evidence of PFAS contamination (e.g., staining/odor), borings were terminated once groundwater was encountered. The exception to terminating the boring at the groundwater interface was if the boring also was designated as a groundwater grab boring location.

3.4 Laboratory Analytical Results – Soil Investigation

Based on the sampling methodology above, a total of 31 soil samples and three quality control duplicate samples were collected as part of the soil investigation. A summary of the soil laboratory analytical result detections is presented on Table 2, and the laboratory analytical reports are provided in Attachment B.

The criteria used for comparison to the soil analytical results were the Pennsylvania Residential and Non-Residential Medium-Specific Concentrations (MSCs). These were incorporated into the Statewide Health Standards in 2021. Although each of the soil samples was analyzed for the 40 PFAS analytes through Method 1633, there are currently only three analytes that have established allowable Medium-Specific Concentration (MSC) criteria for soil including perfluorooctanoic acid (PFOA), perfluorobutanesulfonic acid (PFBS), and perfluorooctanesulfonic acid (PFOS). Residential and Non-Residential MSCs criteria for each of these are shown on Table 2.

PFOS was the most frequently detected PFAS constituent being detected in 16 of the 34 soil samples (including duplicate samples), followed by perfluorohexanesulfonic acid (PFHxS) being detected in eleven of the soil samples. PFOS was the only analyte detected in soil that exceeded the Residential and Non-Residential MSC (7 micrograms per kilogram [ug/kg]) and did so in nine of the investigative soil samples. PFOS concentrations in soil above criteria ranged from 13 ug/kg in boring SB-9 at a depth of three feet (SB-9-3) to 440 ug/kg in boring SB-4 at a depth of seven feet (SB-4-7). This boring also exhibited the second highest PFOS concentration (320 ug/kg) across the site in sample SB-4-1 which was a surface soil sample (zero to one foot depth).

The locations of the PFOS criteria exceedances in soil are shown on Figure 5. As shown on the figure, all soil criteria exceedances were exhibited in borings advanced south of the Saegertown Borough Municipal Building and the Saegertown Fire Department. No soil criteria exceedances were exhibited in any of the borings advanced off site.

4.0 GROUNDWATER INVESTIGATION ACTIVITIES

The groundwater investigation was performed in an attempt to determine the nature and extent of PFAS impact that has been documented in Saegertown Borough's public water supply wells. Groundwater grab sample collection activities were initiated on October 1, 2025, and completed on October 10, 2025. Monitoring well installation and development activities subsequently were initiated on November 13, 2025, and were completed on November 21, 2025.

4.1 Groundwater Grab Sampling Activities

A total of 25 groundwater grab samples (GWG-1 through GWG-18, GWG-20 through GWG-25, and GWG-34) and three quality control duplicate samples were collected as part of this investigation. The locations of the groundwater grab samples are shown on both Figures 3 and 4, and the boring logs for the groundwater grab sample borings are provided in Attachment C. It should be noted that the groundwater grab sample numbering is not completely in sequential order as some groundwater grab locations were predetermined and others were not.

The 25 groundwater grab borings were advanced in areas on and off site that aided in identifying potential PFAS contaminant source areas, PFAS plume movement, and preferable locations of the ensuing ten monitoring wells to be installed for groundwater characterization.

Dependent upon the location, geology, hydrogeology, and difficulty of drilling, multiple methods of collecting the groundwater grab samples were coordinated and planned accordingly. Ultimately, it was determined that the groundwater grab samples would be collected using a temporary one-inch diameter PVC well screen and riser lowered to the bottom of the open borehole (or casing if needed to mitigate borehole collapse during boring advancement). New well screens and risers were used for each groundwater grab sample.

Each of the groundwater grab samples were analyzed for the 40 designated PFAS constituents shown on Table 1, consistent with the soil samples described above. The groundwater grab samples were retrieved using a peristaltic pump and new, disposable, polyethylene tubing for each sample. Prior to sample collection, a minimum of three well volumes of groundwater were purged from the temporary screen to reduce the turbidity to the extent practical.

Some groundwater grab boring locations were poor producers. At these locations, the temporary well screens and risers were left in the open borehole while drilling and groundwater grab sampling continued on to other locations. This allowed the scope of work to continue efficiently while also allowing time for the groundwater to slowly infiltrate the temporary well screen at these poor-producing locations.

Once the appropriate purge volume was attained, the groundwater grab samples were collected using the peristaltic pump and placed into appropriate, laboratory-supplied containers on ice in the sample cooler until shipment to the laboratory.

Although decontamination of the drilling tools was completed between groundwater grab borings (PFAS-free soap scrub wash followed by potable water rinse), there was no decontamination necessary for the sample collection equipment as new dedicated and disposable tubing was used at each groundwater grab location.

After collecting the groundwater grab sample, the temporary PVC well screen and riser were removed from the borehole and disposed accordingly (see Section 8.0 - IDW Management). The open boreholes were subsequently backfilled with native material (soil cuttings) to grade. Any remaining void was backfilled with granular bentonite to grade.

4.1.1 Laboratory Analytical Results - Groundwater Grab Samples

Groundwater grab samples were evaluated against the latest USEPA and Department PFAS criteria dated June 25, 2024. The Department standards are identical to the USEPA's established Maximum Contaminant Levels (MCLs). As presented on Table 3, the current PFAS analytes to have established MSCs include PFOA, perfluorononanoic acid (PFNA), PFBS, PFHxS, PFOS, and hexafluorophopylene oxide (HFPO) dimer acid (Gen-X). Because of the unknown future use of the site and the mixture of commercial and industrial areas near the site, the groundwater grab analytical results were compared to both the Pennsylvania Residential and Non-Residential MSCs for Used Aquifers. However, this comparison is currently not relevant as both the Residential and Non-Residential criteria are identical for all six PFAS analytes.

A summary of the groundwater analytical result detections (i.e., 'Hits' table) is provided on Table 3, and the associated laboratory analytical reports are provided in Attachment B. In addition, the locations of the groundwater grab sample detections above criteria are shown on Figures 6 and 7.

Of the 28 groundwater grab samples submitted for PFAS analysis, only two of the samples (GWG-8 and GWG-12) exhibited no detection of PFAS constituents. PFOA exhibited the most detections in the groundwater grab samples (22 detections) followed by PFHxA (21 detections), and PFOS (20 detections). Other notable detections included PFBS (15 detections), PFHxS (15 detections), and PFNA (10 detections). The only other PFAS constituent that currently has criteria (Gen-X) was not detected in any of the groundwater grab samples.

With respect to criteria exceedances, PFOA exhibited the most exceedances (twelve samples), followed by PFOS (ten samples), PFHxS (six samples), and PFNA (five samples). PFOS detections generally exhibited the highest concentrations in the groundwater grab samples of all the PFAS analytes with notable criteria (4 ng/L) exceedances in samples GWG-5 (1,600 ng/L), GWG-6 (1,500 ng/L), and GWG-9 (2,800 ng/L), and GWG-34 (190 ng/L). All other PFOS detections were below 16 ng/L.

PFOA detections exceeded criteria (4 ng/L) in over half of the groundwater grab sample detections (12 of 22 detections) with notable criteria exceedances in GWG-5 (22 ng/L), GWG-6 (20 ng/L), GWG-6 DUP (18 ng/L), GWG-9 (22 ng/L), GWG-15 (19 ng/L), and GWG-34 (11 ng/L). All other PFOA detections were below 8 ng/L.

PFHxS detections exceeded criteria (10 ng/L) in six of the groundwater grab samples with notable criteria exceedances in GWG-5 (460 ng/L), GWG-6 (370 ng/L), GWG-6 DUP (370 ng/L), GWG-9 (300 ng/L), GWG-23 (20 ng/L), and GWG-34 (120 ng/L). All other PFHxS detections were below 7 ng/L.

PFNA detections exceeded criteria (10 ng/L) in five of the groundwater grab samples with notable criteria exceedances in GWG-5 (11 ng/L), GWG-6 (14 ng/L), GWG-6 DUP (13 ng/L), GWG-9 (12 ng/L), and GWG-34 (21 ng/L). All other PFNA detections were below 4 ng/L.

4.2 Groundwater Monitoring Well Locations

After completion of the soil and groundwater grab sampling activities, OBG | Baker field personnel and the drilling subcontractor (Allprobe) demobilized from the site. Once the laboratory analytical results of the soil and groundwater grab samples summarized above were presented to the Department, a subsequent meeting took place on November 6, 2024, between the Department and OBG | Baker to discuss the findings. The meeting was to determine the appropriate number and construction specifications of the groundwater monitoring wells.

It was agreed in the meeting that ten shallow overburden groundwater monitoring wells (BMW-1 through BMW-10) would be installed as part of the investigation. Based on a review of the test boring logs and the soil and groundwater grab laboratory analytical results, the locations and reasoning for the ten groundwater monitoring wells proposed for this investigation are provided below and are shown on Figure 8.

BMW-1

A well was proposed and installed adjacent to groundwater grab boring GWG-12. As there were no PFAS detections in the soil or groundwater at this location, a well was proposed at this location to serve as a background well for the investigation. In addition, its location is strategic for development of future groundwater flow mapping.

BMW-2

A well was proposed and installed adjacent to groundwater grab boring GWG-9. This well would provide a monitoring point of the highest aggregate PFAS concentrations exhibited in all of the groundwater grab samples. The well also would aid in evaluating the magnitude of the PFAS impact to the overburden aquifer and provide a better understanding of identifying a potential PFAS source area(s).

BMW-3

A well was proposed and installed adjacent to soil boring SB-4. This location was chosen to provide a monitoring point of the highest PFOS concentrations exhibited in all soil samples collected for analysis. PFOS soil concentrations at depths of one (320 ng/L) and seven (440 ng/L) feet bgs were over an order of magnitude above criteria (7 ng/L). This well would aid in evaluating the magnitude of the PFOS impact to the overburden aquifer from these elevated soil concentrations and provide a better understanding of the potential PFAS source area(s).

BMW-4

A well was proposed and installed adjacent to groundwater grab boring GWG-5. This location was chosen to provide a monitoring point of the second highest aggregate PFAS concentrations exhibited in all of the groundwater grab samples. This well also would aid in evaluating the magnitude of the PFAS impact to the overburden aquifer and provide a better understanding of the potential PFAS source area and its migration beyond the Saegertown Fire Department to the west off site.

BMW-5

A well was proposed and installed adjacent to groundwater grab boring GWG-34. This location was chosen to provide a monitoring point near the PFAS-impacted Saegertown Beverage Well (SBW) and also monitor the off-site PFAS migration to the west. Groundwater grab sample GWG-34 exhibited the highest PFAS concentrations of any groundwater grab sample west of the railroad tracks (Erie-Lackawana Railroad) making this a strategic location for a monitoring well.

BMW-6

A well was proposed and installed adjacent to groundwater grab boring GWG-23. This location was chosen to provide a monitoring point for PFAS plume migration to the northwest. Groundwater grab sample GWG-23 was the farthest groundwater down gradient (groundwater flow generally to the northwest toward French Creek) sample to exhibit PFAS impact above criteria.

BMW-7

A well was proposed and installed adjacent to groundwater grab boring GWG-24. This location was chosen to provide a monitoring point for PFAS plume migration further to the northwest. Groundwater grab sample GWG-24 was the farthest north groundwater sample to exhibit PFAS impact above criteria. Future monitoring of this well would be strategic in determining the need for further investigation northwest in the future.

BMW-8

A well was proposed and installed adjacent to groundwater grab boring GWG-15. This location was chosen to evaluate the PFAS groundwater plume migration from Parker Lord across South Street to the northwest and French Creek. A well at this location would also provide a future

monitoring point to the south that does not require permission and access to nearby wells on the Parker Lord property (MW-24S/D).

BMW-9

A well was proposed and installed adjacent to groundwater grab boring GWG-20. This location was chosen to provide a monitor point for the PFAS plume migration toward French Creek and provide coverage of PFAS impact to the residential and commercial areas west of the railroad tracks off site. This well also would provide a better understanding of groundwater flow in the area.

BMW-10

A well was proposed and installed adjacent to groundwater grab boring GWG-17. This location was chosen to provide a monitor point for the PFAS plume migration toward French Creek beyond the Parker Lord property boundary. This well and others would also aid in the evaluation of potential multiple PFAS groundwater plumes in the site area.

4.3 Groundwater Monitoring Well Installation Activities

The groundwater monitoring well installation activities were completed by Allprobe with the OBG | Baker on-site geologist providing oversight and direction. The well borings were drilled using 4-1/4 inch inside diameter hollow stem augers. As was earlier described for the soil sampling drilling, continuous soil core samples were collected for lithologic identification during well boring advancement. No soil samples were submitted for laboratory analysis during the well boring advancements as all well locations were advanced adjacent to a previously advanced soil boring or groundwater grab boring location.

The wells were constructed using two-inch diameter, Schedule 40, polyvinyl chloride (PVC) well casing and screen materials. Screens (0.010-inch slot) for all wells were ten feet in length. All ten wells were installed at depths between approximately 14 and 27 feet deep. Wells were constructed to 'straddle' the encountered water table to allow for seasonal fluctuations in groundwater elevations. Typically, approximately 20% of the well screen is placed above the water table and 80% of the well screen is placed below the water table.

Once the desired depth of the well was achieved, the well construction activities were initiated. At each well location, after placement of the well screen and riser, a sand pack was placed between the well screen and the inside of the augers up to a level approximately two feet above the top of the well screen. Above the well screen, bentonite chips were installed between the PVC riser and the augers to near grade. As the construction materials were installed, the augers were slowly removed from the borehole annulus to allow the construction materials to fill the annulus void. The bentonite chips were hydrated after placement.

At the ground surface, some wells were completed with a flush mounted steel casing set in a two-foot square concrete pad. At other well locations, a 'stick-up' well was constructed fitted with a steel protective casing and two protective bollards, each painted vibrant yellow. The stick-up wells were each fitted with a keyed-alike lock.

The Test Boring and Well Construction Records for the ten site investigation monitoring wells are provided in Attachment D.

4.3.1 Groundwater Monitoring Well Development

Monitoring well development activities were performed no sooner than 24 hours after completing the installation of the monitoring wells. Before development, groundwater level and total well depth measurements were collected to calculate the volume of groundwater present within the well casing and determine the appropriate volume to be evacuated for development.

A disposable submersible pump (e.g., Whale pump) with dedicated, disposable tubing and/or a dedicated disposable bailer were used to develop the wells to remove fine sediments and residual drill cuttings from the well casing and the borehole annulus and allow for collection of representative samples for analysis. The pump and bailer were raised and lowered during development to agitate (i.e., stir up) the water within the well to remove additional suspended solids. If production was poor using the pump, development was subsequently completed with the disposable bailer. Development continued at each well until at least the calculated five well volumes were removed.

Water generated from the well development activities was containerized in buckets and transferred to drums in the centralized staging area. The management of Investigation-Derived Waste (IDW) is discussed further in Section 8.0 (IDW Management) of this report.

4.4 Groundwater Monitoring Well Sampling Activities

Two comprehensive groundwater sampling events to be completed approximately three months apart were included in the site investigation scope of work. The two events were proposed to allow for a more robust database for determining future work at the site (if any), and also for evaluating potential seasonal effects on groundwater quality.

The initial comprehensive groundwater sampling event took place from December 2, 2025, to December 6, 2025. The second comprehensive groundwater sampling event took place from March 31, 2025, to April 3, 2025. Wells in the comprehensive sampling events included the ten newly installed wells (BMW-1 through BMW-10), Parker Lord wells (GM-14S/D, GM-15S/D, GM-23S/D, GM-24S/D, W7S/D), Saegertown Borough wells (OB-6-50, OB-6-100, OB-7-50, OB-7-100, PW-1, PW-2, PW-6, PW-7, and SBMW-1), and the Saegertown Beverage Well (SBW). It should be noted that well GM-23D was unable to be sampled in December 2024 due to being located under a large pile of plowed snow at the time of sampling.

A complete round of groundwater levels was collected from the wells and recorded in the field notebook and are summarized on Table 4 for December 2024 and Table 5 for March/April 2025. The monitoring wells were purged prior to sampling to collect a representative groundwater sample from the overburden aquifer.

The monitoring wells were purged and sampled using low flow purging and sampling methods to minimize sampling-induced turbidity problems and provide samples more representative of ambient groundwater quality. A peristaltic pump with dedicated, disposable polyethylene tubing was used for the well purging and sampling activities to mitigate cross contamination between wells. For the pumping wells (e.g., PW-1 and SBW), the effluent was allowed to pump for no less than ten minutes prior to sample collection for laboratory analysis.

At each monitoring well location, the peristaltic tubing was lowered to the approximate mid-point of the well's screened interval. The pumping rate was set to create a low sustainable flow. A water level meter was used concurrently to monitor the water level within the well casing. Ideally, the water level would remain in 'steady state' during low flow pumping and not be drawn down. If drawdown in the well occurred, the pump flow rate was reduced until the water level in the well casing stabilized. Typically, flow rates of less than one liter per minute were used initially. However, the flow was dependent upon the hydrogeologic characteristics of the well sampled.

Regardless of the pumping purging methodology, temperature, dissolved oxygen, specific conductance, pH, oxidation-reduction potential (ORP), and turbidity were measured at approximate five-minute intervals during purging and recorded in the field logbook for both sampling events. The field testing was conducted within a flow-through cell that limited exposure of the groundwater to the atmosphere while the field measurements (including flow rate calculated with a graduated bucket and stopwatch) were recorded.

In general, purging was considered complete when three successive readings stabilized within 0.1 Standard Units for pH, 10 millivolts for ORP, 3% for specific conductance, 10% for dissolved oxygen, and turbidity is less than 10 Nephelometric Turbidity Units (NTUs). Temperature readings were recorded but not used for stabilization evaluation. Temperatures measured at the surface are affected to some extent by the difference between ambient air and groundwater temperatures and thus can vary over short periods. Summaries of the final field readings from the December 2024 sampling event are provided on Table 6 and from the March/April 2025 sampling event on Table 7.

Upon stabilization of the above markers, the groundwater samples were collected from the end of the pump tubing and placed into appropriate, laboratory-supplied containers. The samples subsequently were placed on ice in a cooler immediately after collection until shipment via FedEx to the laboratory. Each of the groundwater samples were analyzed for the 40 PFAS analytes listed on Table 1 using Method 1633 by Pace Analytical Services, LLC of Greensburg, PA.

4.5 Groundwater Monitoring Well Survey

The survey of the ten new wells (BMW-1 through BMW-10) and twelve of the Parker Lord wells was completed concurrently with the groundwater monitoring well sampling activities. The survey was completed to provide accurate placement on scaled site figures and for development of representative groundwater flow mapping. The wells were surveyed on December 4, 2024.

The monitoring well survey activities included locating the horizontal position and establishing elevations of the wells. Elevations of the top of steel protective casing (stick up or flush mounted), top of inner PVC casing, and adjacent concrete pad (acting as ground surface) were surveyed.

The horizontal survey data were measured to the nearest 0.1-foot and referenced to the Pennsylvania State Plane Coordinate System, North American Datum (NAD) 1983. The vertical survey data were measured to the nearest 0.01-foot and referenced to the North American Vertical Datum (NAVD) 1988.

The surveying activities were conducted under the direction of a professional land surveyor licensed to practice surveying in the Commonwealth of Pennsylvania. The data collected from the December 2024 well survey are incorporated into Tables 4 and 5 and also on the respective well construction logs of the ten new wells in Attachment D.

5.0 HYDROGEOLOGY

Two separate groundwater elevation contour maps were developed from the two groundwater sampling events in December 2024 and March/April 2025. For both contour maps, groundwater elevation data was not used from any of the deep nested wells (GM-13D, GM-14D GM-15D, GM-23D, GM-24D, and W7D). Rather, the groundwater elevations from the associated shallow wells at these well nests were used for development of the contour maps as their construction specifications (e.g., total well depth) aligned better with the other wells on site used in contour development.

All wells on site were installed in the overburden which consists of an unconsolidated mixture of sand, silt, clay, and gravel throughout the vertical profile. Sandy gravel and coarse gravel zones (glacial outwash) likely contribute to a majority of the groundwater production in the overburden whereas the clayey silt and clayey sand zones are relatively poor groundwater producers.

Based on a review of geologic mapping in the area, the site appears to be in a geologic buried valley associated with French Creek and is the source of the notable groundwater production in the overburden aquifer. Weathered shale and siltstone from the Conewango Group lie below the overburden at depths greater than 20 feet bgs and is poor in groundwater production. As summarized on Tables 4 and 5, depth to the groundwater across the site varies from approximately six to twenty feet below grade.

It should be noted that the groundwater flow discussion below is limited based on the available groundwater elevation data from both sampling events. As shown on Figures 3 and 4, it is obvious that the distribution of wells in the site area can only provide a generalized interpretation of groundwater flow due to the variability of the concentration of wells across the site.

A groundwater elevation contour map from the December 2024 sampling event is provided on Figure 9. The figure was generated using the data from the associated Table 4. As shown on the figure, it appears that the overburden groundwater flow direction is generally toward French Creek west of the site. However, it appears that borough wells PW-6 and/or PW-7 were likely in use (pumping) at the time of the groundwater elevation measurements as indicated by the concentric lower groundwater elevations in the vicinity of those wells. The measurement of the lowered water table in these two pumping wells skewed the groundwater elevation isopleth contours. It is likely that the generalized groundwater flow across the site is toward French Creek but probably at an oblique angle caused by the buried valley going from south to north beneath the site.

A second groundwater elevation contour map was generated from the March/April 2025 sampling event (Figure 10). The figure was generated using the data from the associated Table 5. Groundwater flow in March 2025 appeared to be more regional when compared to the December 2024 map. Regional groundwater flow is shown to the west and west-southwest toward French

Creek. When the groundwater elevations were collected in March 2025, it appears that borough wells PW-6 and/or PW-7 were likely not in use (not pumping) at the time of the groundwater elevation measurements. This is indicated by the lack of concentric lower groundwater elevations in the vicinity of those wells.

6.0 LABORATORY ANALYTICAL RESULTS – GROUNDWATER MONITORING WELLS

As done for the groundwater grab samples, the groundwater monitoring well samples were evaluated against the latest USEPA and Department PFAS criteria dated June 25, 2024. The Department standards are identical to the USEPA's established MCLs. The current PFAS analytes to have established MSCs for groundwater include PFOA, PFNA, PFBS, PFHxS, PFOS, and Gen-X. Because of the unknown future use of the site and the mixture of commercial and industrial areas near the site, the groundwater analytical results were compared to both the Pennsylvania Residential and Non-Residential MSCs for Used Aquifers. As noted previously, this comparison is currently not relevant as both the Residential and Non-Residential criteria are identical for all six PFAS analytes.

6.1 December 2024 Groundwater Sampling Event

A summary of the groundwater analytical result detections (i.e., Hits' table) is provided on Table 8, and the associated laboratory analytical reports are provided in Attachment E. In addition, the locations of the groundwater sample detections above criteria are shown on Figure 11 to convey the distribution of criteria exceedances.

Of the 34 groundwater monitoring well samples submitted for PFAS analysis (including three quality control duplicate samples), six of the wells (BMW-1, BMW-10, GM-15D, OB-6-100, SBMW-1, and W7D) exhibited no detection of PFAS constituents. PFOS exhibited the most detections in groundwater samples (23 detections) followed by PFHxS and PFOA (20 detections each), and PFHxA (19 detections). Other notable detections included PFBS (16 detections) and PFNA (10 detections). The only other PFAS constituent that currently has criteria (Gen-X) was not detected in any of the groundwater well samples.

With respect to criteria exceedances, PFOS exhibited the most exceedances (20 samples), followed by PFHxS (14 samples), and PFOA (13 samples). The only other criteria exceedance was PFNA in four samples.

PFOS detections generally exhibited the highest concentrations in the groundwater well samples of all the PFAS analytes with notable criteria (4 ng/L) exceedances in wells BMW-2 (3,500 ng/L), BMW-3 DUP (3,500 ng/L), BMW-3 (2,200 ng/L), OB-6-50 (2,100 ng/L), BMW-4 (1,000 ng/L), and OB-7-50 (620 ng/L). All other PFOS detections and exceedances were below 400 ng/L.

PFHxS detections exceeded criteria (10 ng/L) in 14 of the groundwater well samples with notable criteria exceedances in BMW-2 (710 ng/L), BMW-3 DUP (560 ng/L), OB-6-50 (490 ng/L), OB-7-50 (380 ng/L), BMW-4 (360 ng/L), and BMW-3 (290 ng/L). All other PFHxS detections and exceedances were below 150 ng/L.

PFOA detections exceeded criteria (4 ng/L) in 13 of the groundwater well samples with notable criteria exceedances in BMW-8 (44 ng/L), BMW-2 (38 ng/L), OB-6-50 (28 ng/L), OB-7-50 (21 ng/L), BMW-4 (19 ng/L), BMW-5 (12 ng/L), BMW-9 (11 ng/L), and BMW-6 (9.2 ng/L). All other PFOA detections and criteria exceedances were below 7 ng/L.

PFNA detections exceeded criteria (10 ng/L) in four of the groundwater monitoring wells including OB-6-50 (22 ng/L), BMW-5 (20 ng/L), BMW-4 (14 ng/L), and OB-7-50 (13 ng/L). All other PFNA detections were below 4 ng/L except 7.4 ng/L in the SBW well.

6.1.1 Hazard Index

On April 24, 2024, the USEPA finalized a national primary drinking water regulation using a 'Hazard Index' (HI) for PFAS compounds. This approach established six Maximum Contaminant Level Goals (MCLGs). It also established MCLs for five individual PFAS and one group of four PFAS based on various critical health effects.

While the individual MCLs follow the USEPA's typical drinking water standard setting process, the application of the hazard index for the mixture of multiple PFAS analytes is a novel approach. Prior to this rulemaking, USEPA hasn't used a non-concentration-based level to set a drinking water standard. Similarly, USEPA has never developed a standard for a group of contaminants based on dissimilar critical health effects.

In addition to meeting the individual MSC, if more than one of the marked compounds (Gen-X, PFBS, PFHxS, PFNA) are detected at any concentration in a sample, a HI must be calculated using the equation below. The HI MSC is met in this case by maintaining a rolling average HI of less than one for the most recent four quarters of samples utilizing the equation:

Hexafluoropropylene oxide dimer acid (GenX Chemicals)	HFPO-DA
Perfluorobutanesulfonic acid	PFBS
Perfluorohexanesulfonic acid	PFHxS
Perfluorononanoic acid	PFNA

**All concentrations in µg/L

$$HI = \left(\frac{C_{Gen-X}}{0.01}\right) + \left(\frac{C_{PFBS}}{2}\right) + \left(\frac{C_{PFNA}}{0.01}\right) + \left(\frac{C_{PFHxS}}{0.01}\right)$$

C_{Gen-X} = concentration of Gen-X
C_{PFBS} = concentration of PFBS
C_{PFNA} = concentration of PFNA
C_{PFHxS} = concentration of PFHxS

These four specific PFAS compounds were chosen because they are highly mobile, persistent, and bioaccumulative. The four compounds pose significant risks to human health and the environment when present in drinking water and groundwater. It should be noted that the most widespread and concentrated PFAS compound on site is PFOS, which is not used in the HI calculation.

A summary of the calculated HI for the December 2024 sampling event is provided on Table 8. In addition, the HI for groundwater samples above the threshold of one is shown on Figure 11 to convey the distribution of criteria exceedances.

Including the three quality control duplicate samples, 14 of the groundwater samples were able to have HI calculated for the December 2024 sampling event. The remaining samples did not have detections of more than one of the four analytes referenced above. Of those 14 samples with a calculated HI, eleven of the samples exhibited a HI greater than one.

The highest HI was 51.2 in well OB-6-50 followed by OB-7-50 (39.3), BMW-4 (37.4), OB-7-100 (13.2), PW-7 (12.0), and PW-7 DUP (11.0). The remaining groundwater samples exhibited an HI below 10.

6.2 March/April 2025 Groundwater Sampling Event

A summary of the groundwater analytical result detections (i.e., Hits' table) is provided on Table 9, and the associated laboratory analytical reports are provided in Attachment F. In addition, the locations of the groundwater sample detections above criteria are shown on Figure 12 to convey the distribution of criteria exceedances.

Of the 35 groundwater monitoring well samples submitted for PFAS analysis (including three quality control duplicate samples), eight of the wells (BMW-1, BMW-8, GM-14D, GM-15D, GM-23D, OB-6-100, SBMW-1, and W7D) exhibited no detection of PFAS constituents. PFOS, PFOA, and PFHxS all exhibited the most detections in groundwater samples (20 detections each) followed by PFHxA (18 detections), and PFBS (16 detections).

With respect to criteria exceedances, PFOS exhibited the most exceedances (17 samples), followed by PFHxS (13 samples), and PFOA (10 samples). The only other criteria exceedance was PFNA in seven samples.

PFOS detections generally exhibited the highest concentrations in the groundwater well samples of all the PFAS compounds. Notable criteria (4 ng/L) exceedances were exhibited in wells BMW-3 (36,000 ng/L), BMW-2 (6,900 ng/L), BMW-4 (1,700 ng/L), BMW-4 DUP (1,400 ng/L), and OB-6-50 (1,400 ng/L), and OB-7-50 (380 ng/L). All other PFOS detections and exceedances were below 300 ng/L.

PFHxS detections exceeded criteria (10 ng/L) in 13 of the groundwater well samples with notable criteria exceedances in BMW-3 (4,600 ng/L), BMW-2 (1,200 ng/L), OB-6-50 (400 ng/L), BMW-4 (320 ng/L), BMW-4 DUP (300 ng/L), and OB-7-50 (280 ng/L). All other PFHxS detections and exceedances were below 125 ng/L.

PFOA detections exceeded criteria (4 ng/L) in ten of the groundwater well samples with notable criteria exceedances in BMW-3 (300 ng/L), BMW-2 (44 ng/L), OB-6-50 (22 ng/L), BMW-4 (20 ng/L), BMW-4 DUP (18 ng/L), OB-7-50 (14 ng/L), and BMW-5 (12 ng/L). All other PFOA detections and criteria exceedances were below 10 ng/L.

PFNA detections exceeded criteria (10 ng/L) in seven of the groundwater monitoring wells including BMW-3 (260 ng/L), BMW-4 (22 ng/L), BMW-4 DUP (20 ng/L), OB-6-50 (20 ng/L), BMW-5 (19 ng/L), OB-7-50 (16 ng/L), and SBW (14 ng/L). All other PFNA detections were below 4 ng/L.

6.2.1 Hazard Index

A summary of the calculated HI for the March/April 2025 sampling event is provided on Table 9. In addition, the HI for groundwater samples above the threshold of one is shown on Figure 12 to convey the distribution of criteria exceedances.

Including the three quality control duplicate samples, 14 of the groundwater samples were able to have HI calculated for the March/April 2025 sampling event. The remaining samples did not have detections of more than one of the four analytes referenced above. Of those 14 samples with a calculated HI, ten of the samples exhibited an HI greater than one.

The highest HI was 486.0 in well BMW-3 followed by OB-6-50 (42.0), BMW-4 (34.2), BMW-4 DUP (32.0), OB-7-50 (29.6), SBW (12.4), PW-7 (12.0), and BMW-5 (10.4). The remaining groundwater samples exhibited an HI below ten.

An additional requirement by the Department is to develop and maintain rolling averages of the HI for the four most recent quarterly sampling events. The HI MSC is ultimately met by maintaining a rolling average HI of less than one for the most recent four quarters of sampling. Although only two quarters of sampling are available for the average HI calculation to date, the HI values and rolling averages are provided on Table 10.

A total of 13 samples (including duplicates) exceeded the rolling average criteria of one. As expected, the highest rolling average HI was 486.0 in BMW-3, followed by OB-6-50 (46.6), BMW-4 (35.8), OB-7-50 (34.5), BMW-4 DUP (32.0), OB-7-100 (13.2), PW-7 (12.0), PW-7 DUP (11.0), and SBW (10.4). All other average HI values were below ten.

7.0 QUALITY ASSURANCE / QUALITY CONTROL

In addition to the investigative soil, groundwater grab, and groundwater monitoring well samples, Quality Assurance/Quality Control (QA/QC) samples also were collected as part of the investigation. A presentation of the QA/QC samples collected with their associated analytical results is provided below. The analytical results of the duplicate samples are spread across their respective investigative results tables. The field blanks and equipment rinsate blanks analytical results are tabulated on Table 11 and the detailed laboratory analytical reports provided in Attachment B (soil and groundwater grab samples), Attachment E (December 2024 groundwater), and Attachment F (March/April 2025 groundwater).

7.1 Duplicate Samples

Duplicate samples were collected at a rate of approximately 10% of the associated investigative samples. Using this criterion, a total of three soil duplicate samples (SB-5-1 DUP, SB-6-7 DUP, and SB-10-19 DUP) were collected in October 2024 during the drilling activities, three groundwater grab duplicate samples (GWG-6 DUP, GWG-7 DUP, and GWG-10 DUP) in October 2024, three groundwater monitoring well duplicates in December 2024 (BMW-3 DUP, GM-24S DUP, and PW-7 DUP), and three groundwater monitoring well duplicates in March/April 2025 (BMW-4 DUP, PW-6 DUP, and W7S-DUP).

As presented in the Quality Assurance Plan (OBG | Baker, September 2023), the Data Quality Objectives (DQOs) for the Relative Percent Difference (RPD) between investigative samples and the associated duplicate samples is 35% for non-aqueous samples and 20% for aqueous samples.

For the three soil samples (Table 2), analyte detections between the three investigative and duplicate samples were consistent. One of the three soil and associated duplicate samples exhibited no PFAS detections. The other two soil samples and associated duplicate samples exhibited identical PFAS detections, but concentrations were outside of the 35% objective.

For the three groundwater grab samples (Table 3), all three investigative samples and their associated duplicates exhibited the same PFAS analyte detections and all at concentrations within the 20% targeted RPD.

For the December 2024 groundwater monitoring well sampling event, two of the three investigative/duplicate samples exhibited identical analyte detections and concentrations within the 20% targeted RPD. The lone exception being BMW-3/BMW-3 DUP where the two samples exhibited identical analyte detections, but concentrations were outside the targeted 20% RPD.

For the March/April 2025 groundwater monitoring well sampling event, two of the three investigative/duplicate samples exhibited identical analyte detections and concentrations within the 20% targeted RPD. The lone exception being W7S and W7S DUP that exhibited identical analyte detections with one exception and concentrations being within the targeted 20% RPD.

7.2 Field Blanks

To document the quality of the PFAS-free, certified water used for the decontamination activities, verify laboratory analysis integrity, and provide an evaluation of ambient site conditions, a total of three field blanks were collected as part of the investigation. One PFAS-free, certified water field blank (FB-1) was collected for analysis during the soil sampling activities, one from the December 2024 groundwater sampling event (FB-1224), and one from the March/April 2025 groundwater sampling event (FB-0425). The field blanks were collected by pouring laboratory-grade, PFAS-free certified water (supplied by the laboratory) into the appropriate sample container for laboratory analyses.

As summarized on Table 11, field blanks FB-1, FB-1224, and FB-0425 exhibited no PFAS analyte detections. Therefore, it can be assumed that water provided by the laboratory and ambient site conditions did not impact the sample integrity during the field activities.

7.3 Equipment Rinsate Blanks

To document sufficient decontamination practices of non-disposable sampling equipment, one equipment rinsate sample was collected for each non-disposable sampling device used during the investigation. Equipment rinsate samples were proposed to be collected at an approximate rate of five percent of investigative samples. Rinsate samples were collected using PFAS-free, certified water supplied by the laboratory.

A total of six equipment rinsate samples were collected during the investigation. Equipment rinsate blank EB-01 was collected from the Geoprobe drive shoe during the soil boring activities in October 2024. EB-02 and EB-04 were collected from different (dedicated and disposable) PVC risers used during the ensuing groundwater grab sampling activities. Rinsate EB-03 was collected from the Geoprobe drilling barrel used during the groundwater grab sampling activities. Rinsates EB-01-1224 and EB-02-0425 were collected from the water level meter during the December 2024 and the March/April 2025 groundwater sampling events, respectively.

The field blanks were collected by pouring laboratory-grade, PFAS-free, deionized water (provided by the laboratory) over the drilling or sampling equipment presented above and collecting the rinsate into the appropriate sample container for laboratory analyses.

No PFAS analytes were detected in any of the six equipment rinsate samples. Therefore, it is assumed that decontamination practices were sufficiently completed during the drilling and sampling activities and there was no evidence of cross contamination between samples collected for analysis.

8.0 INVESTIGATION-DERIVED WASTE MANAGEMENT

Investigation-Derived Waste (IDW) was generated and managed accordingly during the site investigation and associated sampling activities. Ancillary wastes that were not believed to pose a potential threat to the environment (e.g., disposable gloves, tubing, disposable bailers, rope, paper towels, etc.) were temporarily disposed on site in a Construction and Demolition (C&D) rolloff box. One load of C&D waste totaling less than one half of one ton was transported off site to the Construction and Demo Debris Disposal Site (Permit #101716), 603 Erie Street, Saegertown, PA on April 11, 2025. The scale ticket is provided in Attachment G.

Eleven soil drums were generated from the well installation borings. Cuttings from soil borings and groundwater grab borings were returned to the borehole of origin after boring completion as there was no evidence of contaminant impact (elevated field screening readings, odor, staining, etc.). Soil cuttings from the monitoring well installation activities were containerized in properly labeled, steel, 55-gallon drums for later characterization by OBG | Baker personnel and disposal by the IDW subcontractor.

The only other waste stream generated was the decontamination fluids from the soil boring and well installation activities and purged groundwater from the two rounds of groundwater well sampling. Five drums of aqueous waste were generated from the investigation.

For the drummed aqueous and non-aqueous waste, waste profile samples (IDW-AQ-0425 and IDW-SOIL-0425, respectively) were collected for analysis for an extensive analytical suite required by the disposal facilities. The laboratory analytical reports for the two waste profile samples are provided in Attachment E with the groundwater well analyses.

Once the analytical results were received, they were presented to the waste disposal subcontractor (American Waste Management Systems, Inc. [AWMSI]) for dissemination to the disposal facilities. Coordination for removal of the drums was completed once approved.

The eleven soil drums and five water drums were transported on May 28, 2025, for treatment and disposal to Michigan Disposal Waste Treatment, Belleville, MI. Copies of the waste disposal manifests for the soil and aqueous drums are provided in Attachment G. It should be noted that since the water drums were bulging from storage over the winter, they were transferred into one larger plastic tote, as required by the disposal facility.

9.0 NATURE AND EXTENT OF CONTAMINANT IMPACT

This section was developed to evaluate the various physical and chemical properties of the contaminants detected in soil and groundwater and provide a discussion of the relationship these properties have on influencing the fate and transport of the constituents of concern in the environment.

9.1 Soil

A total of 34 soil samples were collected for laboratory analysis as part of the soil investigation. A summary of the soil laboratory analytical result detections is presented on Table 2, and the laboratory analytical reports are provided in Attachment B.

The primary focus of the nature and extent of contaminant impact is on PFAS analytes that have established regulatory criteria. For soil, there are currently only three analytes that have established MSCs including PFOS, PFOA, and PFBS.

PFOS was the only analyte to exceed criteria during the soil investigation. PFOS is found in older stocks of Aqueous Film Forming Foam (AFFF) and also is a breakdown product of PFAS precursor compounds. These older stocks are referred to as 'legacy AFFF'. PFOS was the most frequently detected PFAS constituent being detected in approximately one half of the soil samples and exceeded criteria (7 ug/kg) in approximately one quarter of the samples. Although a majority of the PFOS criteria exceedances were exhibited in surface soil samples, the highest concentration (440 ug/kg) was collected from boring SB-4 at a depth of seven feet below grade. Similarly, at depth criteria exceedances of PFOS also were exhibited in borings SB-2, SB-9, and SB-12. Therefore, this collective area can be considered a contaminant source area continuing to impact the overburden aquifer below (see Figure 5).

PFOA is also a long-chain PFAS compound and was not an intended ingredient in AFFF but was a side product created during the manufacturing process. PFOA was only detected in two of the soil samples and both from boring SB-12, near the apparent eastern limits of soil impact. Neither sample exhibited PFOA concentrations above criteria (7 ug/kg).

Consistent with PFOA, PFBS also was only detected in the two samples from boring SB-12, both at concentrations below criteria. The PFBS detections are believed to be near the eastern limits of the soil contaminant impact. PFBS was introduced in the industry as a replacement for PFOS in AFFF in the early 2000's. The presence of both PFBS and PFOS in impacted soil conveys that the PFAS impact was possibly from a continual or periodic source/practice in the 1990's (or earlier) and extended into the 2000's.

With respect to the extent of PFAS impact in soil, all soil criteria exceedances were exhibited in borings advanced south of the Saegertown Borough Municipal Building and the Saegertown Fire Department (Figure 5). No soil criteria exceedances were exhibited in any other borings advanced

on or off site. As shown on the figure, the general extent of the PFOS impact in soil appears to be limited to near the Saegertown Borough property line to the east (beyond eastern limit of gravel lot), the wood line along the railroad to the west, the borough shed to the north (small building south of borough building on figure), and the southern end of the borough gravel parking lot to the south. This generalized area is greater than two acres (approximately 450 feet x 225 feet). These limits and area could be better defined with additional data from the area.

9.2 Groundwater

From the extensive groundwater investigation and the most recent round of groundwater sampling in March/April 2025, some reasonable observations can be made regarding the nature and extent of contaminant impact to the overburden aquifer. Consistent with the soil discussion above, the primary focus of this discussion is on PFAS analytes that have established regulatory criteria. These include PFOS, PFHxS, PFOA, PFNA, PFBS, and Gen-X for groundwater. Gen-X was the only one of these six analytes not detected in any of the groundwater well samples.

For the two most recent comprehensive groundwater sampling events in December 2024 and March/April 2025, PFOS, PFHxS, PFOA, and PFNA were the only analytes to exceed criteria in groundwater. Criteria exceedances for these analytes varied from approximately 15%of the samples (PFNA) to more than 50% of the samples (PFOS).

With respect to the extent of PFAS impact in groundwater, the primary focus is on the extent of PFAS contaminant plume related to the primary investigation area near the fire department and the Saegertown Borough building and not the independent/unrelated PFAS plume to the south on the Parker Lord property. The limit of PFAS impact in groundwater has not been determined in most directions outward from the theorized source area near the fire department and Saegertown Borough building. This lack of delineation was expected as no field screening technology is currently available for soil and groundwater to allow real-time field decisions on determination of proposed borings locations to better delineate contaminant impact.

As shown on Figures 11 and 12, the PFAS plume has not been defined to the north as the three most northern wells (BMW-2, BMW-3, and BMW-4) exhibited PFAS concentrations orders of magnitude above criteria from both sampling events. Similarly, PFAS impact above criteria in PW-2, BMW-6 and BMW-7 to the northwest in December 2024 and PW-2 in March/April 2025 conveys that the PFAS plume also has not been delineated to the northwest. Criteria exceedances in wells BMW-5, BMW-9, and SBW in December 2024 and BMW-5 and the SBW well in March/April 2025 indicate that the PFAS plume has not been delineated to the west. The lack of PFAS detections in BMW-1 during both sampling events conveys that the eastern limits of the PFAS plume is between impacted well OB-7-100 and BMW-1. Conversely, the lack of PFAS detections in well OB-6-100 in both December 2024 and March/April 2025 suggests that the PFAS plume has been delineated to the south as being between OB-6-100 and PW-6 to the north.

As noted above, the PFAS plume described above is believed to be independent of the PFAS plume on the Parker Lord property to the south. This assumption is based on the lack of PFAS detections in OB-6-100 to the north, documented groundwater flow toward French Creek site wide, and the distribution of PFAS concentrations in several shallow and deep Parker Lord wells along their western property boundary (see Figures 11 and 12).

The extensive detections and/or criteria exceedances of PFOS, PFHxS, PFOA, and PFNA exhibited in groundwater are indicative of legacy AFFF, which was manufactured through the early 2000's. Conversely, the extensive detections of PFBS in nearly 50% of the groundwater samples (albeit all at concentrations below criteria) are indicative of two geographically separate overburden groundwater plumes with different PFAS chemistries. Individual discussions of PFOS, PFHxS, and PFOA are presented below with associated isoconcentration mapping to better understand the nature and extent of the overall PFAS plume.

9.2.1 Perfluorooctane Sulfonate (PFOS)

PFOS detections generally exhibited the highest concentrations of all the PFAS compounds in groundwater. Concentrations were near four orders of magnitude above criteria (4 ng/L) in BMW-3, over three orders of magnitude in BMW-2, and over two orders of magnitude in OB-6-50 and BMW-4 in March/April 2025. All other PFOS detections and exceedances were below 400 ng/L.

PFOS isoconcentration maps were developed for the two groundwater sampling events in December 2024 (Figure 13) and March/April 2025 (Figure 14). The nature of the groundwater impact appears to be consistent with the soil discussion above. PFOS is the primary constituent of concern at the site by exhibiting the most detections and the most exceedances in the groundwater samples from both sampling events. PFOS concentrations were highest in the on-site contaminant source area in the vicinity of BMW-3 with PFOS levels of 3,500 ng/L in December 2024 and 36,000 ng/L in March/April 2025.

As shown on the two PFOS isoconcentration maps, there are two independent groundwater plumes impacting the overburden aquifer. The southern extent of the primary PFOS plume is between wells PW-6 and OB-6-100. To the northeast, the PFOS criteria exceedances appears to be between impacted PW-2 and BMW-6 and BMW-7. PW-1 corroborates the decreasing PFOS levels in BMW-6 with no detection in either sampling event. The plume does not appear to extend north across Erie Street as PFOS was not detected in either of the groundwater grab samples from the MacLean-Fogg property (GWG-1 and GWG-4 on Figure 6).

The lack of PFOS detections in BMW-9 in both sampling events appear to delineate the PFOS plume in this area to be between BMW-9 and the corner of Alden Alley and Grant Street. This is where an elevated PFOS concentration in a groundwater grab sample was collected (GWG-21 on Figure 6). To the east, the PFOS plume delineation is between impacted wells OB-7-100 and BMW-2 and non-impacted, background wells BMW-1. For all of the above delineation

discussions, it should be noted that delineation can be relative to the focus of the investigation with often several hundred feet between the impacted and non-impacted wells.

The second PFOS groundwater plume is primarily on the Parker Lord property and the aggregate PFOS impact from both sampling events encompasses wells BMW-8 and BMW-10 off the Parker Lord property and GM-24S and GM-24D on the Parker Lord property. This smaller PFOS plume has not been delineated in any direction other than the northern limit of the plume is between South Street and on-site well OB-6-100 over 600 feet to the north.

9.2.2 Perfluorohexanesulfonic acid (PFHxS)

PFHxS detections exceeded criteria (10 ng/L) in approximately 40% of the groundwater samples and was a component of legacy AFFF. Concentrations were three orders of magnitude above criteria in BMW-2 and BMW-3 in March/April 2025 and two orders of magnitude above criteria in wells BMW-2, OB-6-50, OB-7-50, BMW-4, and BMW-3 in December 2024. Wells OB-6-50, BMW-4, and OB-7-50 also were two orders of magnitude above criteria in March/April 2025. All other PFHxS detections and exceedances were below 150 ng/L.

PFHxS isoconcentration maps were developed for the two groundwater sampling events in December 2024 (Figure 15) and March/April 2025 (Figure 16). As shown on the two isoconcentration maps and consistent with the PFOS discussion above, there are two independent groundwater plumes impacting the overburden aquifer. The southern extent of the primary PFHxS plume is between impacted well PW-6 and non-impacted well OB-6-100. To the northeast, the PFHxS plume limit appears to be between impacted wells PW-2 and BMW-6 and non-impacted wells PW-1 and BMW-7. It does not appear that the PFHxS plume extends north of Erie Street onto MacLean Fogg. There appears to be no PFHxS plume delineation to the west beyond impacted well BMW-5. To the east, the PFHxS plume delineation appears to be between impacted wells BMW-2 and OB-7-100 and background well BMW-1.

Consistent with the PFOS discussion above, a second PFHxS groundwater plume is on the Parker Lord property (March/April 2025 sampling event) including only wells GM-24S, GM-24D, and BMW-8 (PFHxS detected but did not exceed criteria in GM-23D and BMW-8). This smaller PFHxS plume appears to be delineated by BMW-10 to the west and BMW-8 to the east. However, the PFHxS plume has not been delineated to the south on the Parker Lord property, and the northern limit of the plume is between South Street and on-site well OB-6-100 over 600 feet to the north.

9.2.3 Perfluorooctanoic Acid (PFOA)

PFOA detections exceeded criteria (4 ng/L) in approximately one third of the groundwater well samples and also was a component of legacy AFFF. Concentrations were two orders of magnitude above criteria in BMW-2 and BMW-8 December 2024 and BMW-3 in March/April 2025.

PFOA isoconcentration maps were developed for the two groundwater sampling events in December 2024 (Figure 17) and March/April 2025 (Figure 18). Consistent with the other PFAS analyte discussions above, there are two independent PFOA groundwater plumes impacting the overburden aquifer.

The southern extent of the primary PFOA plume is between impacted well PW-6 and non-impacted well OB-6-100. To the northeast, the PFOA plume does not appear to be delineated with PFOA impact exhibited in wells BMW-5, BMW-6, and BMW-7 (in December 2024).

It does not appear that the PFOA plume extends north of Erie Street onto MacLean Fogg. There appears to be no PFOA plume delineation to the west beyond impacted wells BMW-5, BMW-6, and BMW-9 (December 2024) and groundwater grab sample GWG-21 on Figure 6. To the east, the PFOA plume delineation appears to be between impacted wells BMW-2 and background well BMW-1.

The second PFOA groundwater plume is north of South Street and the Parker Lord property. This smaller plume appears to be delineated to the west with the lack of detections in wells GM-24S and GM-24D. However, this smaller plume is not delineated in any other direction other than it not being detected in well OB-6-100 several hundred feet to the north.

10.0 DATA TRENDS

Potable pumping wells with a sufficient historical database were evaluated including the two recent groundwater sampling events completed by OBG | Baker in December 2024 and March/April 2025. A majority of the historical sampling activities were completed by Saegertown Borough's consultant (Groundwater Resources, LLC). The historical groundwater results are summarized on Table 12 with the focus of the discussion primarily on PFOS as it continues to be the analyte to exceed criteria in most wells. As shown on the table, some of the pumping wells have a more extensive history of available analytical data than others.

PW-1

No discernable trends were identified in PFAS concentrations other than the well has consistently exhibited low-level detections of various PFAS analytes below criteria.

PW-2

PFOS and PFHxS continue to be the primary PFAS analytes of concern in the well. PFOS concentrations have consistently exceeded criteria (4 ng/L) and PFHxS concentrations have exceeded criteria (10 ng/L) in the majority of the sampling events. With limited data available, it is unclear if the upward spike in PFAS concentrations in April 2024 are anomalous or indicative of periodic increases in PFAS concentrations due to periodic pumping of wells in the surrounding area.

PW-3

No discernable trends were identified in PFAS concentrations other than the well has consistently exhibited no detection of PFAS analytes.

PW-4

No discernable trends were identified in PFAS concentrations other than the well has consistently exhibited no detection of PFAS analytes.

PW-5

No discernable trends were identified in PFAS concentrations other than the well has consistently exhibited no detection of PFAS analytes.

PW-6 / PW-7

With respect to pumping wells PW-6 and PW-7, evaluation of concentration trends can be difficult as the borough has periodically pumped from each well individually or concurrently (blended effluent) over the timeframe being evaluated. Table 12 not only shows which well was sampled but also if one or both pumps were on at the time of the sampling event.

Generally, PFAS concentrations have oscillated up and down but exhibited an overall decrease from 2020 through late 2022 in the two wells. Specifically, PFOS concentrations in PW-6

decreased from 187.1 ng/L in October 2020 to 4.6 ng/L in October 2022 and had oscillating low levels of PFOS above criteria afterwards.

The PW-6 effluent in July 2023 continued to exhibit low levels of PFAS analytes until October 2024 when a significant rebound occurred with PFOS concentrations rising to 160 ng/L, PFHxS to 91 ng/L, and PFOA to 5.5 ng/L. This is likely a function of the effluent proportionality of PW-6 and PW-7 leading up to the actual time of sampling and its radius of influence to the surrounding aquifer (i.e., effluent pulling from one well more than the other in the blended stream).

Sampling of each of these wells individually was completed by OBG | Baker in December 2024 and April 2025 and allowed for a better evaluation of groundwater quality in the area. As shown on Table 12, PFAS concentrations in PW-6 remained stable and consistent with concentrations exhibited in October 2024. PFAS concentrations in PW-7 were noticeably higher than PW-6 in December 2024 and April 2025 conveying that PW-7 is possibly closer to the PFAS contaminant source area than PW-6. This perception is supported by the soil PFAS source area discussion earlier in the report.

Saegertown Beverage Well (SBW)

The only other well on site with sufficient and available historical groundwater sampling results to evaluate possible data trends is the SBW well. Low level PFAS detections (e.g., PFOS: 0.664 ng/L and PFOA: 3.1 ng/L) were exhibited in June 2021 with notable increases in all detected PFAS constituents during the subsequent sampling event in July 2022 (e.g., PFOS: 40.3 ng/L and PFOA: 18.8 ng/L).

After a significant decrease in all detected PFAS concentrations in October 2022, PFOS concentrations continued to increase through the most recent sampling event in April 2025 where the highest PFOS concentrations were exhibited to date for the data available. The other remaining PFAS analytes did exhibit the same upward trend in concentrations since October 2022.

11.0 CONCLUSIONS

In general, outstanding environmental investigation activities remain warranted as the full nature and extent of soil and groundwater impact has not been completely determined through this initial site investigation.

11.1 Soil

All soil criteria exceedances were exhibited in borings advanced south of the Saegertown Borough Municipal Building and the Saegertown Fire Department and were limited to PFOS only. No soil criteria exceedances were exhibited in any other soil samples collected on or off site. The general extent of the PFOS impact in soil appears to be limited to near the Saegertown Borough property line to the east (beyond eastern limit of gravel lot), the wood line along the railroad to the west, the borough shed to the north (small building south of borough building on figure), and the southern end of the borough gravel parking lot to the south. This generalized area is greater than two acres (approximately 450 feet x 225 feet).

PFOS is found in older stocks of AFFF and was detected in approximately one half of the soil samples and exceeded criteria (7 ug/kg) in approximately one quarter of the samples. Although a majority of the PFOS criteria exceedances were exhibited in surface soil samples, elevated PFOS concentrations at depth in borings SB-2, SB-4, SB-9, and SB-12 convey that these areas are a continuing contaminant source impacting the overburden aquifer below.

PFBS was only detected in two soil samples at concentrations below criteria. The PFBS detections are believed to be near the eastern limits of the soil contaminant impact. PFBS was introduced in the industry as a replacement for PFOS in AFFF in the early 2000's. The presence of both PFBS and PFOS in impacted soil conveys that the PFAS impact was possibly from a continual or periodic source in the 1990's (or earlier) and extended into the 2000's. This conclusion is supported by the detections of other legacy AFFF compounds including PFHxS, PFOA, and PFNA.

The source release and conditions to cause the distribution of PFOS impact in soil is unclear. Although it is believed a contaminant source exists in the vicinity of borings SB-2, SB-4, SB-9, and SB-12, the wide distribution of PFOS impact to surface soils over the multi-acre area in multiple directions cloud the source and mechanism of the impact.

11.2 Groundwater

Overburden groundwater flow direction is generally toward French Creek west of the site. Saegertown Borough pumping wells affect the groundwater and contaminant plume flow migration toward French Creek to the west. Groundwater flow toward the creek is likely at an oblique angle caused by the buried valley going from south to north in which the site lies.

PFAS concentrations in PW-6 and PW-7 oscillated at relatively low concentrations (albeit above criteria for select analytes) through April 2024 but have rebounded to their highest levels since 2021. The trend of higher PFAS levels is likely attributed to the wells being utilized by the borough at the time of sampling pulling the PFAS contaminant plume into the two well's radius of influence in the aquifer.

Based on the proximity of PFAS (primarily PFOS) in groundwater, the possible use of AFFF at the nearby firefighter training location may be a potential PFOS contaminant source. Although PFOS, PFHxS, PFOA, and PFNA were the only analytes to exceed criteria in groundwater, PFOS is considered the primary PFAS of concern with concentrations near four orders of magnitude above criteria (4 ng/L) and exceedances in more than 50% of the wells.

Although the general extent of the PFOS impact in soil is greater than two acres, the source area believed to contribute the greatest adverse effects to the overburden aquifer is significantly smaller. This more concentrated area of contamination encompasses a significant portion of the borough gravel parking lot and is inclusive of borings SB-2, SB-4, SB-9, and SB-12.

The extensive detections and/or criteria exceedances of PFOS, PFHxS, PFOA, and PFNA exhibited in groundwater are indicative of legacy AFFF, which was manufactured through the early 2000's. Conversely, the extensive detections of PFBS in nearly 50% of the groundwater samples (albeit all at concentrations below criteria) are indicative of AFFF formulated after the early 2000's. Therefore, it is believed that a continual or periodic source of contaminant impact was present at the site contributing to the overall degradation of the overburden aquifer for several years.

There are two independent PFAS groundwater plumes impacting the overburden aquifer. The southern extent of the primary PFAS plume discussed at length in the sections above is between wells PW-6 and OB-6-100. The second PFAS groundwater plume is primarily on the Parker Lord property but does extend north to between BMW-8 and OB-6-100.

The limit of PFAS impact in groundwater has not been determined in most directions outward from the theorized source area near the fire department and Saegertown Borough building. This was expected as no real time field screening technology currently exists to allow field decisions on boring movement for contaminant plume delineation.

12.0 RECOMMENDATIONS

An extensive amount of analytical, geological, and hydrogeological data from the investigation has been generated from project inception in 2022 to completion of the site investigation activities in April 2025. From this extensive database and observations made during all facets of the investigation, recommendations for further investigation work at the site are as follows:

- With the assumption that excavation and disposal is the most viable remedial alternative for PFAS-contaminated soil, the limits of PFAS contamination in soil need to be more refined. It is recommended that a series of shallow soil borings be advanced in a gridded area encompassing borings SB-2, SB-4, SB-9, and SB-12.

- With the understanding that no real time field screening of PFAS analytes is available, it is recommended that the soil investigation be completed using a tiered evaluation and analysis paradigm. Essentially, an extensive number of soil samples would be collected at multiple depths across the grid with the assumption that not all soil samples submitted will be analyzed. When the soil results are received, decisions will be made if the associated more shallow or deeper soil sample (or further outward grid boring soil sample) warrants analysis to adequately delineate the soil impact. This methodology can be utilized with the affordability of extensive analytical holding times for PFAS constituents.

- All recommendations for additional groundwater investigation activities will be solely within the unconfined overburden aquifer. This is due to the PFAS impact described above and the significant production of the overburden aquifer (large glacial outwash area) compared to the limited groundwater production of the underlying bedrock (siltstone and shale).

- Groundwater grab samples are proposed to be collected in several directions outward from the existing pumping and monitoring wells on and off site that exhibited contaminant concentrations above criteria. Once the groundwater grab sample analytical results are received and evaluated, installation of additional monitoring wells is recommended and include:

    - One monitoring well is proposed to be installed at the location that exhibited the greatest PFAS contamination during the proposed soil investigation described above. A well at this location will allow for better monitoring of the source area and its variability in quality over time.

    - Delineation of the PFAS plume in groundwater has not been achieved in multiple directions from the apparent source area south of the fire department and borough building. One monitoring well is proposed north of the site near Erie

Street. This well should delineate the contaminant impact exhibited in wells BMW-2, BMW-3, BMW-4, and groundwater grab borings GWG-2 and GWG-3.

- One monitoring well is proposed in the residential neighborhood northwest of pumping well PW-2. This well should delineate the contaminant impact exhibited in wells PW-2, BMW-6, and BMW-7.

- Two monitoring wells are proposed between French Creek and west of contaminated wells BMW-5, BMW-9, and SBW. These wells should not only delineate the wide contaminant plume as it migrates toward French Creek but also serve as sentinel wells to monitor plume movement as it approaches the creek.

- One to two monitoring wells are proposed east and/or northeast of BMW-2. This is one of the most impacted wells on site and the limit of this impact is unclear to the east and northeast. Multiple groundwater grab samples are recommended east of BMW-2 oriented in a line from north to south.

- Two monitoring wells oriented east to west are proposed north of South Street, BMW-8, and BMW-10, and south of well OB-6-100.

- In addition to the groundwater laboratory analyses, a detailed evaluation of the groundwater contaminant plume chemistries will be completed to assess the potential characteristic differences of the two apparent independent groundwater plumes in the investigation area.

FIGURES

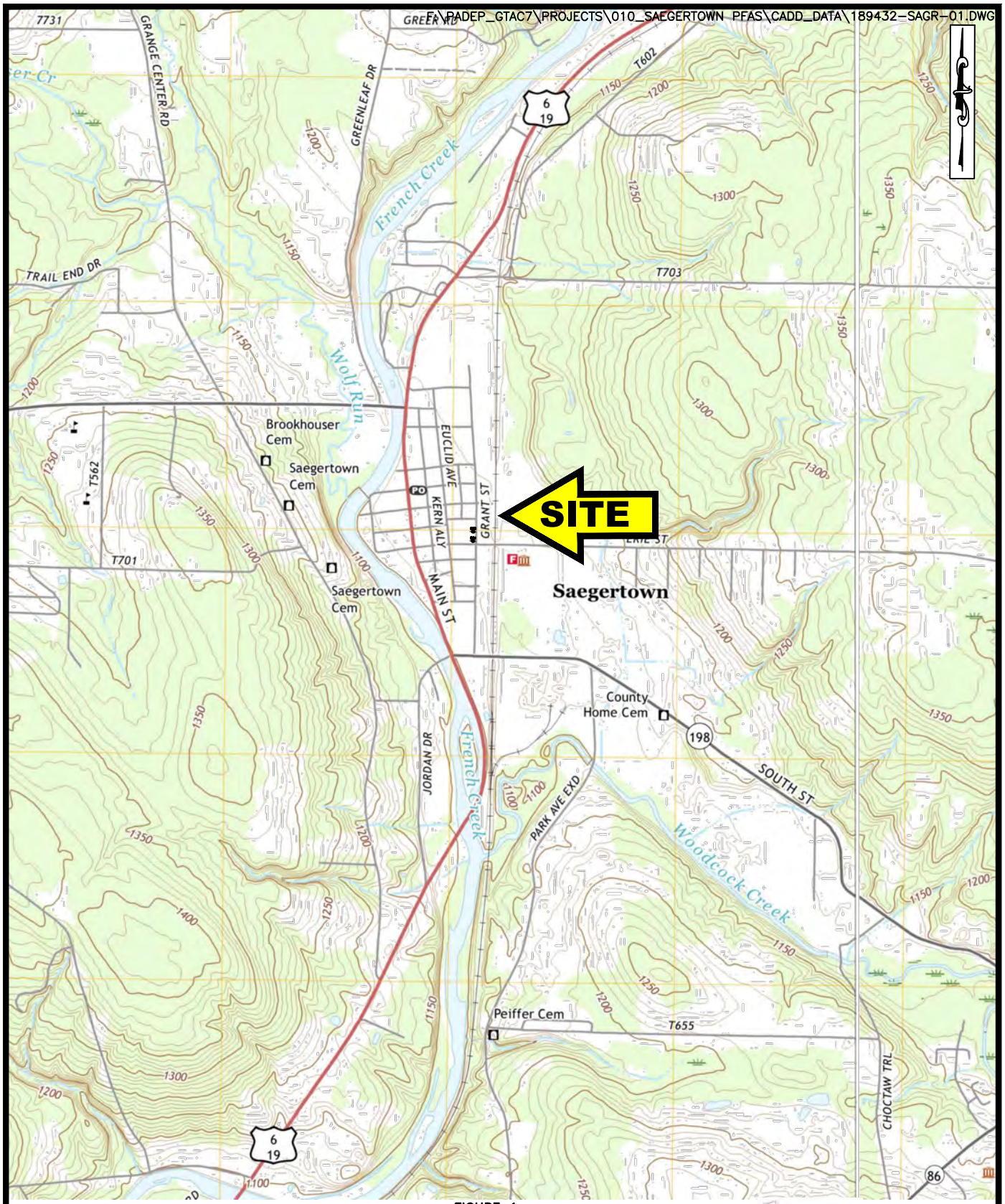
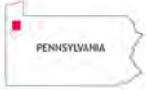


FIGURE 1
GENERAL SITE LOCATION MAP
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

SOURCE:
USGS: MEADVILLE, PA, 2019
BLOOMING VALLEY PA, 2019



QUADRANGLE LOCATION

SCALE:	0 — 2000	DATE:	JUNE 2022
S.O. NO.:	189432	FILE:	189432-SAGR-01
DSN/DWN:	CHK/RRR	CHK:	CHK

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Michael Baker INTERNATIONAL
OBG|Baker Environmental Solutions Joint Venture

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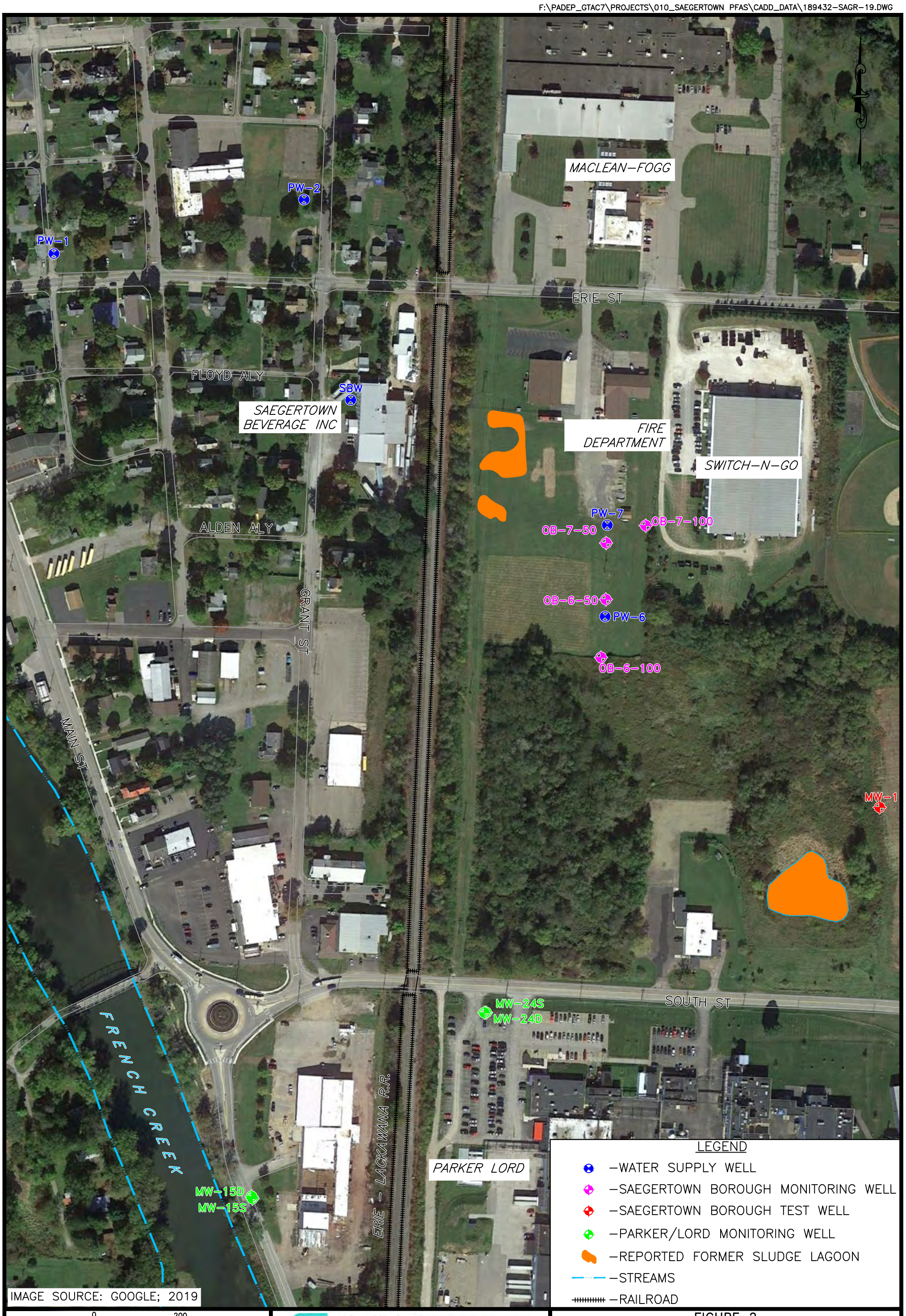

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	JUNE 2025
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-19

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Michael Baker INTERNATIONAL
OBG|Baker Environmental Solutions Joint Venture

FIGURE 2
SITE FEATURES MAP
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

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LEGEND

- SOIL BORING (OCT. 2024)
- SOIL BORING/GROUNDWATER GRAB SAMPLE (OCT. 2024)
- GROUNDWATER GRAB SAMPLE (OCT.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD

GWG-1
GWG-24
MACLEAN-FOGG
PW-2
PW-1
GWG-23
GWG-4
ERIE ST
GWG-2
GWG-3
GWG-22
GWG-34
FLOYD ALY
SBW
SB-1
FIRE DEPARTMENT
SAEGERTOWN BEVERAGE INC
GWG-5
SAEGERTOWN BOROUGH BLDG
SB-6
SB\GWG-6
SB-9
SB/GWG-9
SB-4
SWITCH-N-GO
SB-2
SB-12
SB-10
SB/GWG-10
SB-5
PW-7
SB-7
SB\GWG-7
OB-7-100
OB-7-50
SB-13
GWG-12
ALDEN ALY
GWG-21
SB-3
SB-11
SB/GWG-11
GWG-8
SB-8
OB-6-50
SB-18
SB/GWG-18
PW-6
GRANT ST
GWG-20
MATCHLINE FIGURE 3 NORTH
MATCHLINE FIGURE 4 SOUTH

SCALE: 0 150
S.O. NO.: 189932
DSN/DWN: CHK/RRR
DATE: JUNE 2025
FILE: 189432-SAGR-11
CHK: CHK

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OBG|Baker Environmental Solutions Joint Venture

FIGURE 3
SAMPLE LOCATION MAP - NORTH
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

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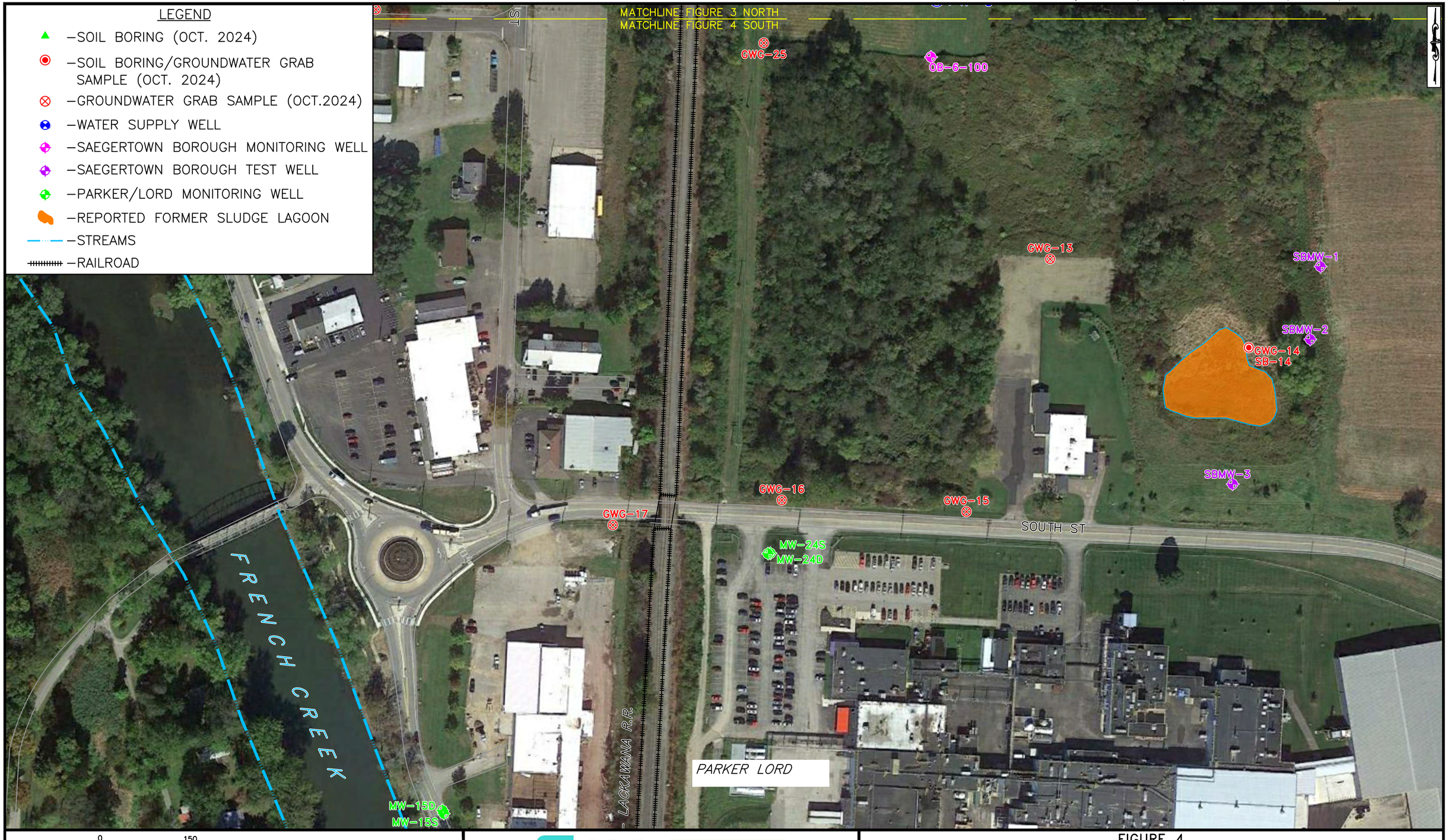
LEGEND

- SOIL BORING (OCT. 2024)
- SOIL BORING/GROUNDWATER GRAB SAMPLE (OCT. 2024)
- GROUNDWATER GRAB SAMPLE (OCT.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD



SCALE: 0 150
S.O. NO.: 189932
DSN/DWN: CHK/RRR
DATE: JUNE 2025
FILE: 189432-SAGR-11
CHK: CHK

OBG Part of Ramboll
Michael Baker INTERNATIONAL
OBG|Baker Environmental Solutions Joint Venture

FIGURE 4
SAMPLE LOCATION MAP – SOUTH
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC7\PROJECTS\010_SAEGERTOWN PFAS\CADD_DATA\189432-SAGR-17.DWG

CRITERIA	PADEP RESIDENTIAL MSCs	PADEP NON-RESIDENTIAL MSCs	
		Surface Soil	Subsurface Soil
PFAS (µg/kg)	0.0-15.0'	0.0-2.0'	2.0-15.0'
Perfluorooctanesulfonic acid-PFOS	7	7	7

Note:
- µg/kg = Microgram per Kilogram
- PFAS = polyfluoroalkyl substances
- MSCs = Medium Specific Concentration

LEGEND
- -SOIL BORING (OCT. 2024)
- -SOIL BORING/GROUNDWATER GRAB SAMPLE (OCT. 2024)
- -GROUNDWATER GRAB SAMPLE (OCT.2024)
- -WATER SUPPLY WELL
- -SAEGERTOWN BOROUGH MONITORING WELL
- -SAEGERTOWN BOROUGH TEST WELL
- -PARKER/LORD MONITORING WELL
- -REPORTED FORMER SLUDGE LAGOON
- -STREAMS
- -RAILROAD

Sample ID	SB-6-1
Sample Date	10/10/2024
Sample Depth (ft bgs)	1.0
PFOS (µg/kg)	**34**

Sample ID	SB-4-1
Sample Date	10/9/2024
Sample Depth (ft bgs)	1.0
PFOS (µg/kg)	**320**

Sample ID	SB-4-7
Sample Date	10/9/2024
Sample Depth (ft bgs)	7.0
PFOS (µg/kg)	**440**

Sample ID	SB-2-1
Sample Date	10/9/2024
Sample Depth (ft bgs)	1.0
PFOS (µg/kg)	**33**

Sample ID	SB-2-8
Sample Date	10/9/2024
Sample Depth (ft bgs)	8.0
PFOS (µg/kg)	**33**

Sample ID	SB-9-1
Sample Date	10/9/2024
Sample Depth (ft bgs)	1.0
PFOS (µg/kg)	**14**

Sample ID	SB-9-3
Sample Date	10/9/2024
Sample Depth (ft bgs)	3.0
PFOS (µg/kg)	**13**

Sample ID	SB-12-1
Sample Date	10/9/2024
Sample Depth (ft bgs)	1.0
PFOS (µg/kg)	**180**

Sample ID	SB-12-2
Sample Date	10/9/2024
Sample Depth (ft bgs)	2.0
PFOS (µg/kg)	**74**

SCALE: 0 150
S.O. NO.: 189432
DSN/DWN: CHK/RRR
DATE: JUNE 2025
FILE: 189432-SAGR-17
CHK: CHK

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Michael Baker INTERNATIONAL
OBG|Baker Environmental Solutions Joint Venture

FIGURE 5
SOIL SAMPLE DETECTIONS ABOVE CRITERIA
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-SAGR-11.DWG

CRITERIA PFAS (ng/L)	PADEP RESIDENTIAL MSCs	PADEP NON-RESIDENTIAL MSCs
Perfluorooctanoic acid-PFOA	4	4
Perfluorononanoic acid-PFNA	10	10
Perfluorobutanesulfonic acid-PFBS	2,000	2,000
Perfluorobutanesulfonic acid-PFHxS	10	10
Perfluorobutanesulfonic acid-PFOS	4	4

Note:
- (ng/L) = Nanograms per liter
- PFAS = Per - and Polyfluoroalkyl substances
- MSC = Medium Specific Concentration

LEGEND
- SOIL BORING (OCT. 2024)
- SOIL BORING/GROUNDWATER GRAB SAMPLE (OCT. 2024)
- GROUNDWATER GRAB SAMPLE (OCT.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD

Sample ID	GWG-24
Sample Date	10/3/2024
PFOA (ng/L)	6

Sample ID	GWG-23
Sample Date	10/2/2024
PFOA (ng/L)	7.6
PFHxS (ng/L)	20
PFOS (ng/L)	5.9

Sample ID	GWG-34
Sample Date	10/8/2024
PFOA (ng/L)	11
PFNA (ng/L)	21
PFHxS (ng/L)	120
PFOS (ng/L)	190

Sample ID	GWG-2
Sample Date	10/8/2024
PFOA (ng/L)	6

Sample ID	GWG-3
Sample Date	10/9/2024
PFOS (ng/L)	7.1

Sample ID	GWG-5
Sample Date	10/8/2024
PFOA (ng/L)	22
PFNA (ng/L)	11
PFHxS (ng/L)	460
PFOS (ng/L)	1,600

Sample ID	GWG-6
Sample Date	10/10/2024
PFOA (ng/L)	20
PFNA (ng/L)	14
PFHxS (ng/L)	370
PFOS (ng/L)	1,500

Sample ID	GWG-6DUP
Sample Date	10/10/2024
PFOA (ng/L)	18
PFNA (ng/L)	13
PFHxS (ng/L)	370
PFOS (ng/L)	1,500

Sample ID	GWG-9
Sample Date	10/9/2024
PFOA (ng/L)	22
PFNA (ng/L)	12
PFHxS (ng/L)	300
PFOS (ng/L)	2,800

Sample ID	GWG-21
Sample Date	10/1/2024
PFOA (ng/L)	7.2
PFOS (ng/L)	9

Sample ID	GWG-20
Sample Date	10/7/2024
PFOA (ng/L)	5.4

Sample ID	GWG-18
Sample Date	10/8/2024
PFOA (ng/L)	5.5
PFOS (ng/L)	5.4

GWG-1, GWG-24, GWG-23, GWG-4, PW-2, PW-1, GWG-2X, GWG-2, GWG-3, GWG-34, GWG-22, GWG-6, GWG-6DUP, SBW, GWG-5, SB-1, SB-6, SB\GWG-6, SB-4, SB-2, SB-9, SB/GWG-9, SB-12, SB-10, SB/GWG-10, SB-7, SB\GWG-7, SB-5, PW-7, OB-7-100, OB-7-50, SB-13, GWG-12, SB-3, GWG-8, SB-11, SB/GWG-11, SB-8, OB-6-50, SB-18, SB/GWG-18, PW-6, GWG-21, GWG-20

MACLEAN-FOGG; ERIE ST; FLOYD ALY; SAEGERTOWN BEVERAGE INC; FIRE DEPARTMENT; SAEGERTOWN BOROUGH BLDG; SWITCH-N-GO; ALDEN ALY; GRANT ST

MATCHLINE FIGURE 6
MATCHLINE FIGURE 7

SCALE: 0 150
S.O. NO.: 209033
DSN/DWN: CHK/RRR
DATE: OCTOBER 2025
FILE: 209033-SAGR-11
CHK: CHK

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MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 6
GROUNDWATER GRAB SAMPLE DETECTIONS ABOVE CRITERIA - NORTH
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

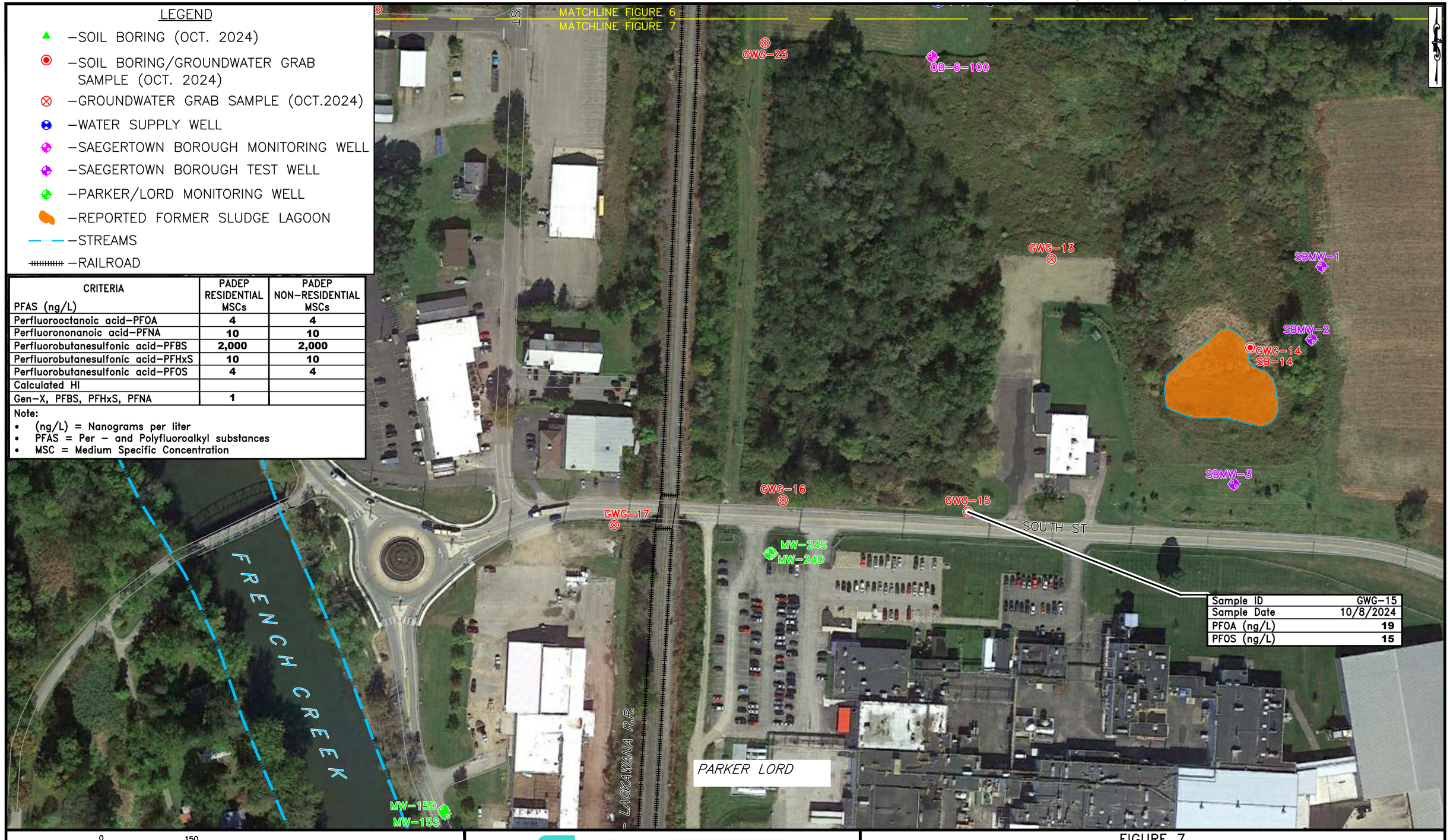
F:\PADEP_GTAC7\PROJECTS\010_SAEGERTOWN PFAS\CADD_DATA\189432-SAGR-11.DWG

LEGEND

- SOIL BORING (OCT. 2024)
- SOIL BORING/GROUNDWATER GRAB SAMPLE (OCT. 2024)
- GROUNDWATER GRAB SAMPLE (OCT.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD

CRITERIA PFAS (ng/L)	PADEP RESIDENTIAL MSCs	PADEP NON-RESIDENTIAL MSCs
Perfluorooctanoic acid-PFOA	4	4
Perfluorononanoic acid-PFNA	10	10
Perfluorobutanesulfonic acid-PFBS	2,000	2,000
Perfluorobutanesulfonic acid-PFHxS	10	10
Perfluorobutanesulfonic acid-PFOS	4	4
Calculated HI		
Gen-X, PFBS, PFHxS, PFNA	1	

Note:
- (ng/L) = Nanograms per liter
- PFAS = Per - and Polyfluoroalkyl substances
- MSC = Medium Specific Concentration



SCALE: 0 150
S.O. NO.: 189932
DSN/DWN: CHK/RRR
DATE: JUNE 2025
FILE: 189432-SAGR-11
CHK: CHK

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FIGURE 7
GROUNDWATER GRAB SAMPLE DETECTIONS ABOVE CRITERIA - SOUTH
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC7\PROJECTS\010_SAEGERTOWN PFAS\CADD_DATA\189432-SAGR-13.DWG

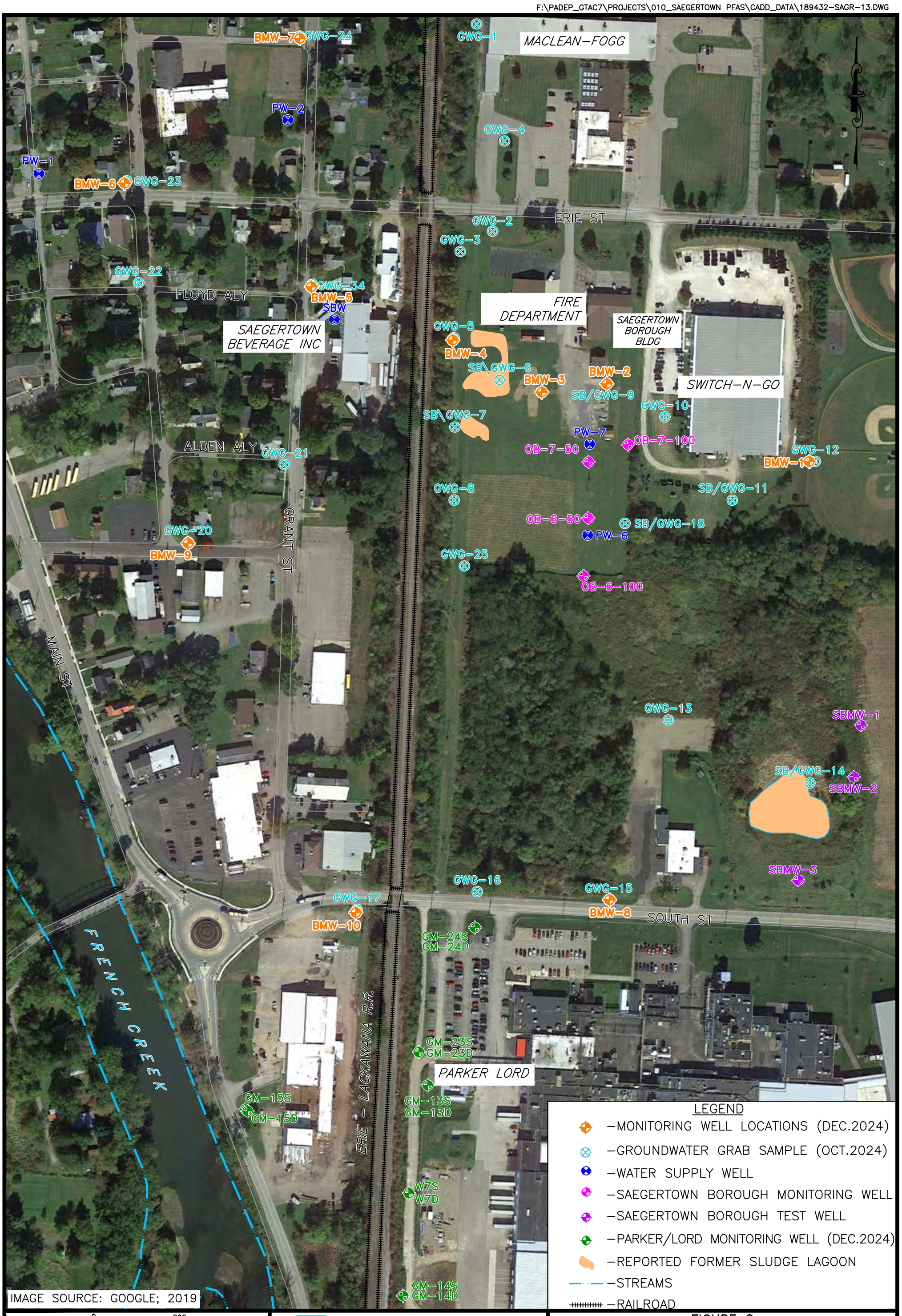

IMAGE SOURCE: GOOGLE; 2019

LEGEND

- —MONITORING WELL LOCATIONS (DEC.2024)
- —GROUNDWATER GRAB SAMPLE (OCT.2024)
- —WATER SUPPLY WELL
- —SAEGERTOWN BOROUGH MONITORING WELL
- —SAEGERTOWN BOROUGH TEST WELL
- —PARKER/LORD MONITORING WELL (DEC.2024)
- —REPORTED FORMER SLUDGE LAGOON
- —STREAMS
- —RAILROAD

SCALE:	0 200
DATE:	JUNE 2025
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-13

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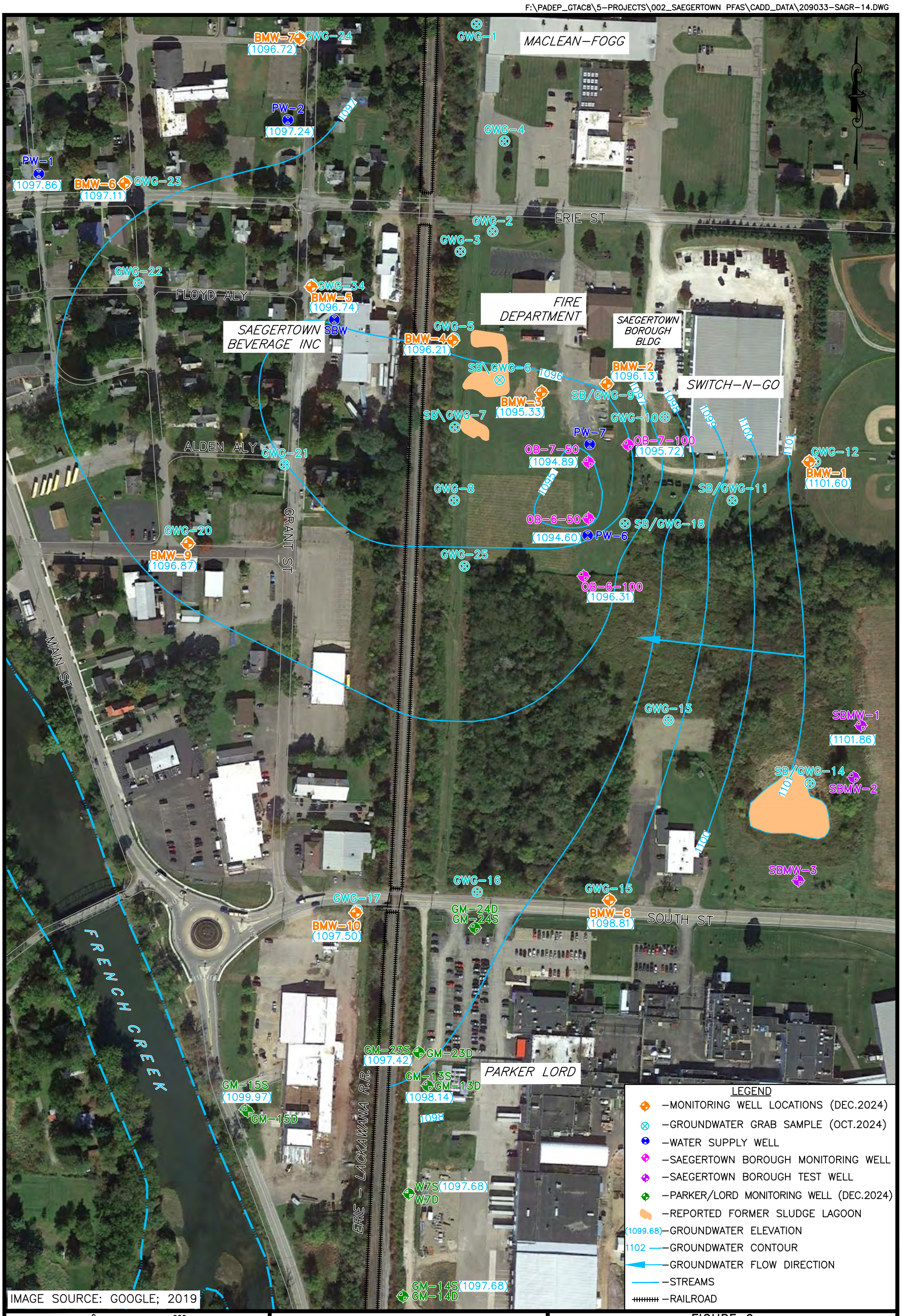
Michael Baker INTERNATIONAL

OBG|Baker Environmental Solutions Joint Venture

FIGURE 8
MONITORING WELL LOCATION MAP
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-SAGR-14.DWG



SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-SAGR-14

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MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 9
GROUNDWATER ELEVATION MAP (DECEMBER 2024)
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-SAGR-15.DWG

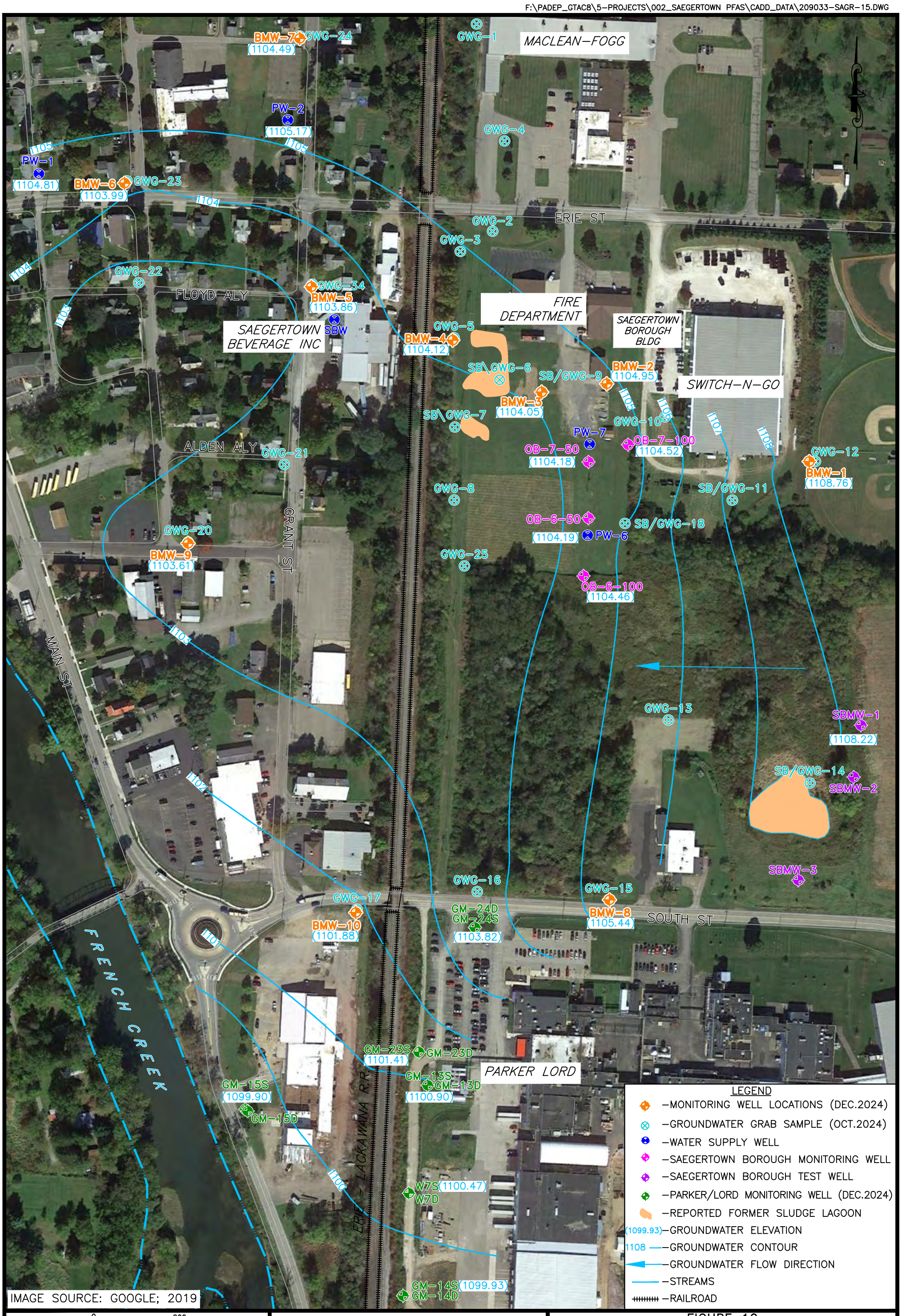

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-SAGR-15

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 10
GROUNDWATER ELEVATION MAP (MARCH 2025)
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC7\PROJECTS\010_SAEGERTOWN PFAS\CADD_DATA\189432-SAGR-16.DWG

Sample ID:	BMW-7
PFOA	5.5

Sample ID:	PW-2
PFHxS	15
PFOS	19
HAZARD INDEX	1.7

Sample ID:	BMW-6
PFOA	9.2
PFHxS	11
HAZARD INDEX	1.4

Sample ID:	BMW-5
PFOA	12
PFNA	20
PFHxS	63
PFOS	110
HAZARD INDEX	8.3

Sample ID:	SBW
PFOA	6.9
PFHxS	76
PFOS	72
HAZARD INDEX	8.3

Sample ID:	BMW-9
PFOA	11

Sample ID:	BMW-4
PFOA	19
PFNA	14
PFHxS	360
PFOS	1,000
HAZARD INDEX	37.4

Sample ID:	BMW-3
PFHxS	290
PFOS	2,200

Sample ID:	BMW-3 DUP
PFHxS	560
PFOS	3,500

Sample ID:	BMW-2
PFOA	38
PFHxS	710
PFOS	3,500

Sample ID:	PW-7
PFOA	6.3
PFHxS	120
PFOS	250
HAZARD INDEX	12

Sample ID:	PW-7 DUP
PFOA	6.1
PFHxS	110
PFOS	240
HAZARD INDEX	11

Sample ID:	OB-7-100
PFHxS	130
PFOS	340
HAZARD INDEX	13.2

Sample ID:	OB-7-50
PFOA	21
PFNA	13
PFHxS	380
PFOS	620
HAZARD INDEX	39.3

Sample ID:	OB-6-50
PFOA	28
PFNA	22
PFHxS	490
PFOS	2,100
HAZARD INDEX	51.2

Sample ID:	PW-6
PFOA	4.7
PFHxS	74
PFOS	160
HAZARD INDEX	7.7

Sample ID:	BMW-8
PFOA	44
PFOS	4.5

Sample ID:	GM-24S
PFOS	34

Sample ID:	GM-24S DUP
PFOS	33

Sample ID:	GM-24D
PFOS	22

Sample ID:	GM-13S
PFOS	4.1

Sample ID:	W7S
PFOS	6.5

Sample ID:	GM-14S
PFOS	6.3

CRITERIA PFAS (ng/L)	PADEP RESIDENTIAL MSCs	PADEP NON-RESIDENTIAL MSCs	USEPA HAZARD INDEX (MCL)
Perfluorooctanoic acid-PFOA	4	4	
Perfluorononanoic acid-PFNA	10	10	
Perfluorobutanesulfonic acid-PFBS	2,000	2,000	
Perfluorobutanesulfonic acid-PFHxS	10	10	
Perfluorobutanesulfonic acid-PFOS	4	4	
Calculated Hazard Index (Gen-X, PFBS, PFHxS, PFNA)			1

Note:
- (ng/L) = Nanograms per liter
- PFAS = Per - and Polyfluoroalkyl Substances
- MSC = Medium Specific Concentration
- MCL = USEPA Hazard Index Maximum Contaminant Level

LEGEND
- MONITORING WELL LOCATIONS (DEC.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL (DEC.2024)
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	JUNE 2025
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-16

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OBG|Baker Environmental Solutions Joint Venture

FIGURE 11
GROUNDWATER MONITORING WELL DETECTIONS ABOVE CRITERIA
DECEMBER 2024
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-SAGR-18.DWG

Sample ID	PW-2
PFOS	13

Sample ID	BMW-4
PFOA	20
PFNA	22
PFHXS	320
PFOS	1,700
HAZARD INDEX	34.2

Sample ID	BMW-4 DUP
PFOA	18
PFNA	20
PFHXS	300
PFOS	1,400
HAZARD INDEX	32

Sample ID	BMW-3
PFOA	300
PFNA	260
PFHXS	4,600
PFOS	36,000
HAZARD INDEX	486

Sample ID	BMW-2
PFOA	44
PFHXS	1,200
PFOS	6,900

Sample ID	BMW-5
PFOA	12
PFNA	19
PFHXS	85
PFOS	200
HAZARD INDEX	10.4

Sample ID	SBW
PFOA	8.9
PFNA	14
PFHXS	110
PFOS	98
HAZARD INDEX	12.4

Sample ID	PW-7
PFOA	5.5
PFHXS	120
PFOS	290
HAZARD INDEX	12

Sample ID	OB-7-100
PFHXS	25
PFOS	62

Sample ID	OB-7-50
PFOA	14
PFNA	16
PFHXS	280
PFOS	380
HAZARD INDEX	29.6

Sample ID	OB-6-50
PFNA	20
PFHXS	400
PFOS	1,400
HAZARD INDEX	42

Sample ID	PW-6
PFHXS	73
PFOS	160
HAZARD INDEX	7.6

Sample ID	PW-6 DUP
PFOA	4.5
PFHXS	83
PFOS	170
HAZARD INDEX	8.6

Sample ID	BMW-10
PFOS	7.4

Sample ID	GM-24S
PFHXS	35
PFOS	36

Sample ID	GM-24D
PFOS	6.2

Sample ID	GM-14S
PFOS	6.3

CRITERIA PFAS (ng/L)	PADEP RESIDENTIAL MSCs	PADEP NON-RESIDENTIAL MSCs	USEPA HAZARD INDEX (MCL)
Perfluorooctanoic acid-PFOA	4	4	
Perfluorononanoic acid-PFNA	10	10	
Perfluorobutanesulfonic acid-PFBS	2,000	2,000	
Perfluorobutanesulfonic acid-PFHxS	10	10	
Perfluorobutanesulfonic acid-PFOS	4	4	
Calculated Hazard Index (Gen-X, PFBS, PFHxS, PFNA)			1

Note:
- (ng/L) = Nanograms per liter
- PFAS = Per - and Polyfluoroalkyl Substances
- MSC = Medium Specific Concentration
- MCL = USEPA Hazard Index Maximum Contaminant Level

LEGEND
- MONITORING WELL LOCATIONS (DEC.2024)
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- SAEGERTOWN BOROUGH TEST WELL
- PARKER/LORD MONITORING WELL (DEC.2024)
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-SAGR-18

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 12
GROUNDWATER MONITORING WELL DETECTIONS ABOVE CRITERIA
MARCH/APRIL 2025
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-02.DWG

ID	PFOS ng/L
BMW-1	ND
BMW-2	3,500
BMW-3	3,500
BMW-4	1,000
BMW-5	110
BMW-6	2.8
BMW-7	ND
BMW-8	4.5
BMW-9	ND
BMW-10	ND
GM-13S	4.1
GM-13D	ND
GM-14S	6.3
GM-14D	1.6
GM-15S	3.4
GM-15D	ND
GM-23S	ND
GM-23D	NS
GM-24S	34
GM-24D	22
OB-6-50	2,100
OB-6-100	ND
OB-7-50	620
OB-7-100	340
PW-1	ND
PW-2	19
PW-6	160
PW-7	250
SBW	72
SBMW-1	ND
W7S	6.5
W7D	ND

MACLEAN-FOGG
ERIE ST
FLOYD ALLEY
ALDEN ALLEY
FIRE DEPARTMENT
SAEGERTOWN BOROUGH BLDG
SAEGERTOWN BEVERAGE INC
SWITCH-N-GO
GRANT ST
MAIN ST
SOUTH ST
PARKER LORD
ERIE - LACKAWANA R.R.
FRENCH CREEK
PW-1
PW-2
PW-6
PW-7
BMW-1
BMW-2
BMW-3
BMW-4
BMW-5
BMW-6
BMW-7
BMW-8
BMW-9
BMW-10
SBW
SBMW-1
OB-6-50
OB-6-100
OB-7-50
OB-7-100
GM-13S
GM-13D
GM-14S
GM-14D
GM-15S
GM-15D
GM-23S
GM-23D
GM-24S
GM-24D
W7S
W7D
1000
400
100
4

PFOS (ng/L) SCALE
4,000
1,000
400
100
4

LEGEND
- MONITORING WELL
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD
- 5 ISOCONCENTRATION CONTOUR
- ng/L NANOGRAMS/LITER
- ND NOT DETECTED
- NS NOT SAMPLED
- PFOS PERFLUOROOCTANESULFONIC ACID

NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-02

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MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 13
PFOS ISOCONCENTRATION MAP
DECEMBER 2024
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-05.DWG

ID	PFOS ng/L
BMW-1	ND
BMW-2	6,900
BMW-3	36,000
BMW-4	1,700
BMW-5	200
BMW-6	ND
BMW-7	ND
BMW-8	ND
BMW-9	ND
BMW-10	7.4
GM-13S	3
GM-13D	ND
GM-14S	6.3
GM-14D	ND
GM-15S	2
GM-15D	ND
GM-23S	ND
GM-23D	ND
GM-24S	36
GM-24D	6.2
OB-6-50	1,400
OB-6-100	ND
OB-7-50	380
OB-7-100	62
PW-1	ND
PW-2	13
PW-6	170
PW-7	290
SBW	98
SBMW-1	ND
W7S	1.8
W7D	ND

PFOS (ng/L) SCALE
62,500
12,500
2,500
500
100
20
4

LEGEND
- —MONITORING WELL
- —WATER SUPPLY WELL
- —SAEGERTOWN BOROUGH MONITORING WELL
- —PARKER/LORD MONITORING WELL
- —REPORTED FORMER SLUDGE LAGOON
- —STREAMS
- —RAILROAD
- —5— —ISOCONCENTRATION CONTOUR
- ng/L —NANOGRAMS/LITER
- ND —NOT DETECTED
- NS —NOT SAMPLED
- PFOS —PERFLUOROOCTANESULFONIC ACID

NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-05

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MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 14
PFOS ISOCONCENTRATION MAP
MARCH/APRIL 2025
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-03.DWG

ID	PFHxS ng/L
BMW-1	ND
BMW-2	710
BMW-3	560
BMW-4	360
BMW-5	63
BMW-6	11
BMW-7	ND
BMW-8	5.2
BMW-9	ND
BMW-10	ND
GM-13S	ND
GM-13D	ND
GM-14S	3.3
GM-14D	ND
GM-15S	ND
GM-15D	ND
GM-23S	ND
GM-23D	NS
GM-24S	6.6
GM-24D	7
OB-6-50	490
OB-6-100	ND
OB-7-50	380
OB-7-100	130
PW-1	ND
PW-2	15
PW-6	74
PW-7	120
SBW	76
SBMW-1	ND
W7S	6.4
W7D	ND

MACLEAN-FOGG
ERIE ST
FLOYD ALLEY
ALDEN ALLEY
SAEGERTOWN BEVERAGE INC
FIRE DEPARTMENT
SAEGERTOWN BOROUGH BLDG
SWITCH-N-GO
GRANT ST
MAIN ST
SOUTH ST
FRENCH CREEK
ERIE - LACKAWANA R.R.
PARKER LORD
PW-1
PW-2
BMW-1
BMW-2
BMW-3
BMW-4
BMW-5
BMW-6
BMW-7
BMW-8
BMW-9
BMW-10
SBW
SBMW-1
PW-6
PW-7
OB-6-50
OB-6-100
OB-7-50
OB-7-100
GM-13S
GM-13D
GM-14S
GM-14D
GM-15S
GM-15D
GM-23S
GM-23D
GM-24S
GM-24D
W7S
W7D
300
100
30
10

PFHxS (ng/L) SCALE
1,000
300
100
30
10

LEGEND
- MONITORING WELL
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD
- 5 ISOCONCENTRATION CONTOUR
- ng/L NANOGRAMS/LITER
- ND NOT DETECTED
- NS NOT SAMPLED
- PFHxS PERFLUOROHEXANESULFONIC ACID

NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

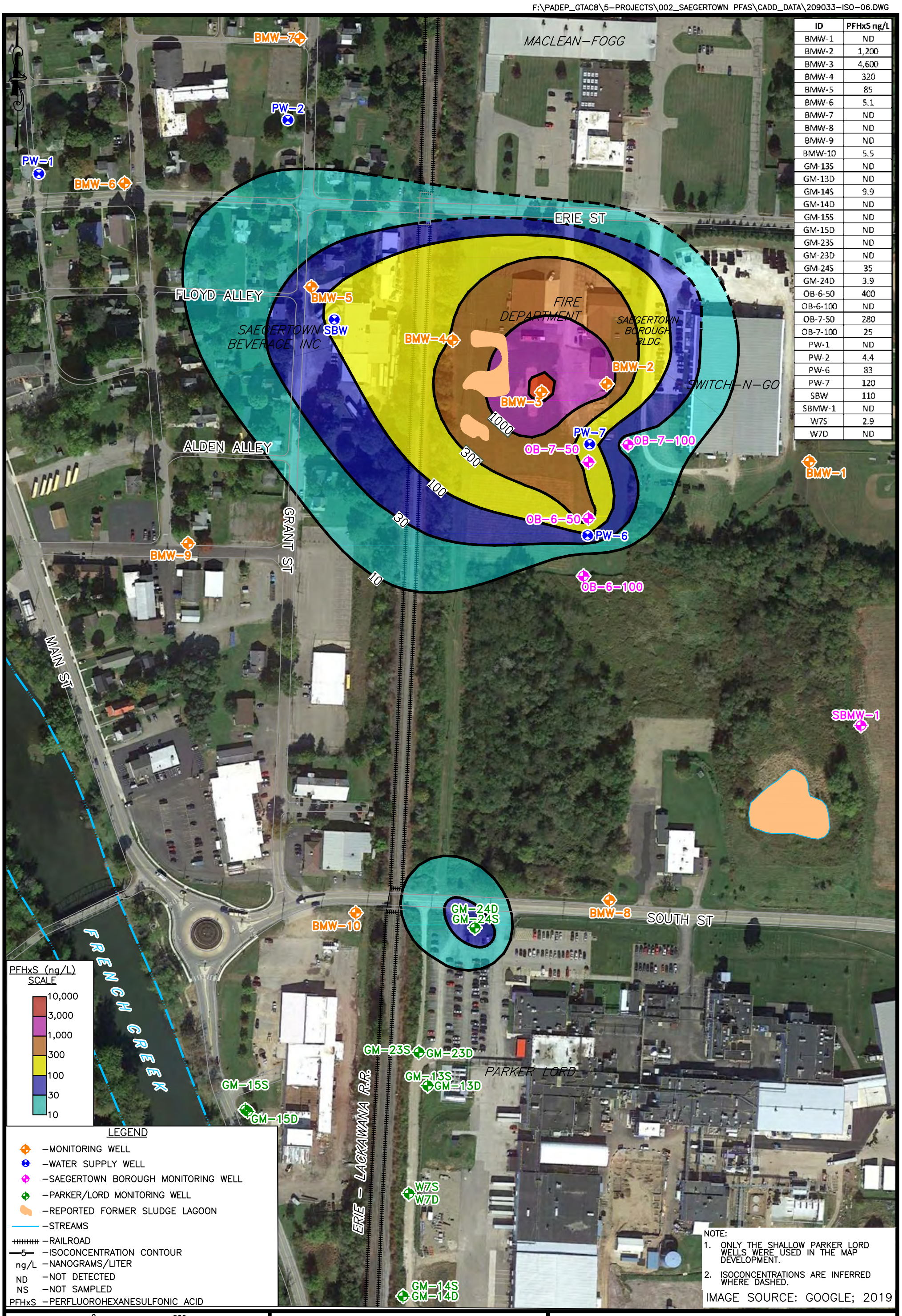
SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-03

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 15
PFHxS ISOCONCENTRATION MAP
DECEMBER 2024
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-06.DWG

ID	PFHxS ng/L
BMW-1	ND
BMW-2	1,200
BMW-3	4,600
BMW-4	320
BMW-5	85
BMW-6	5.1
BMW-7	ND
BMW-8	ND
BMW-9	ND
BMW-10	5.5
GM-13S	ND
GM-13D	ND
GM-14S	9.9
GM-14D	ND
GM-15S	ND
GM-15D	ND
GM-23S	ND
GM-23D	ND
GM-24S	35
GM-24D	3.9
OB-6-50	400
OB-6-100	ND
OB-7-50	280
OB-7-100	25
PW-1	ND
PW-2	4.4
PW-6	83
PW-7	120
SBW	110
SBMW-1	ND
W7S	2.9
W7D	ND



NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-06

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 16
PFHxS ISOCONCENTRATION MAP
MARCH/APRIL 2025
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-01.DWG

ID	PFOA ng/L
BMW-1	ND
BMW-2	38
BMW-3	ND
BMW-4	19
BMW-5	12
BMW-6	9.2
BMW-7	5.5
BMW-8	44
BMW-9	11
BMW-10	ND
GM-13S	2.8
GM-13D	2.1
GM-14S	ND
GM-14D	ND
GM-15S	1.9
GM-15D	ND
GM-23S	ND
GM-23D	NS
GM-24S	ND
GM-24D	ND
OB-6-50	28
OB-6-100	ND
OB-7-50	21
OB-7-100	3
PW-1	2.7
PW-2	2.1
PW-6	4.7
PW-7	6.3
SBW	6.9
SBMW-1	ND
W7S	1.9
W7D	ND

PFOA (ng/L) SCALE
64
32
16
8
4

LEGEND
- —MONITORING WELL
- —WATER SUPPLY WELL
- —SAEGERTOWN BOROUGH MONITORING WELL
- —PARKER/LORD MONITORING WELL
- —REPORTED FORMER SLUDGE LAGOON
- —STREAMS
- —RAILROAD
- 5— —ISOCONCENTRATION CONTOUR
- ng/L —NANOGRAMS/LITER
- ND —NOT DETECTED
- NS —NOT SAMPLED
- PFOA —PERFLUOROOCTANOIC ACID

NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-01

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 17
PFOA ISOCONCENTRATION MAP
DECEMBER 2024
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

F:\PADEP_GTAC8\5-PROJECTS\002_SAEGERTOWN PFAS\CADD_DATA\209033-ISO-04.DWG

ID	PFOA ng/L
BMW-1	ND
BMW-2	44
BMW-3	300
BMW-4	20
BMW-5	12
BMW-6	ND
BMW-7	1.9
BMW-8	ND
BMW-9	3.2
BMW-10	ND
GM-13S	2.7
GM-13D	2.3
GM-14S	4
GM-14D	ND
GM-15S	ND
GM-15D	ND
GM-23S	ND
GM-23D	ND
GM-24S	2.9
GM-24D	ND
OB-6-50	22
OB-6-100	ND
OB-7-50	14
OB-7-100	ND
PW-1	3.2
PW-2	ND
PW-6	4.5
PW-7	5.5
SBW	8.9
SBMW-1	ND
W7S	2.2
W7D	ND

MACLEAN-FOGG
ERIE ST
FLOYD ALLEY
SAEGERTOWN BEVERAGE INC
FIRE DEPARTMENT
SAEGERTOWN BOROUGH BLDG
SWITCH-N-GO
ALDEN ALLEY
GRANT ST
MAIN ST
SOUTH ST
FRENCH CREEK
ERIE - LACKAWANA R.R.
PARKER LORD
BMW-7
PW-2
PW-1
BMW-6
BMW-5
SBW
BMW-4
BMW-2
BMW-3
PW-7
OB-7-50
OB-7-100
BMW-1
BMW-9
OB-6-50
PW-6
OB-6-100
SBMW-1
BMW-10
GM-24D
GM-24S
BMW-8
GM-23S
GM-23D
GM-13S
GM-13D
GM-15S
GM-15D
W7S
W7D
GM-14S
GM-14D
108
36
12
4

PFOA (ng/L) SCALE
324
108
36
12
4

LEGEND
- MONITORING WELL
- WATER SUPPLY WELL
- SAEGERTOWN BOROUGH MONITORING WELL
- PARKER/LORD MONITORING WELL
- REPORTED FORMER SLUDGE LAGOON
- STREAMS
- RAILROAD
- 5 ISOCONCENTRATION CONTOUR
- ng/L NANOGRAMS/LITER
- ND NOT DETECTED
- NS NOT SAMPLED
- PFOA PERFLUOROOCTANOIC ACID

NOTE:
1. ONLY THE SHALLOW PARKER LORD WELLS WERE USED IN THE MAP DEVELOPMENT.
2. ISOCONCENTRATIONS ARE INFERRED WHERE DASHED.

IMAGE SOURCE: GOOGLE; 2019

SCALE:	0 200
DATE:	OCTOBER 2025
DSN/DWN:	CHK/RRR
FILE:	209033-ISO-04

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
MOON TOWNSHIP, PENNSYLVANIA

FIGURE 18
PFOA ISOCONCENTRATION MAP
MARCH/APRIL 2025
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

TABLES

TABLE 1

LIST OF 40 PFAS CONSTITUENTS EVALUATED FOR SITE INVESTIGATION
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

CAS Number	PFAS Constituent	Acronym
763051-92-9	11Cl-PF3OUdS	F53B Major
39108-34-4	1H,1H,2H,2H-Perfluorodecane sulfonic acid	8:2FTS
757124-72-4	1H,1H,2H,2H-Perfluorohexane sulfonic acid	4:2FTS
27619-97-2	1H,1H,2H,2H-Perfluorooctane sulfonic acid	6:2FTS
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid	FPePA(5:3 FTCA)
812-70-4	3-Perfluoroheptyl propanoic acid	FHpPA (7:3FTCA)
356-02-5	3-Perfluoropropyl propanoic acid	FPrPA (3:3FTCA)
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid	ADONA
756426-58-1	9Cl-PF3ONS	F53B Minor
13252-13-6	Hexafluoropropylene oxide dimer acid	HFPO-DA
4151-50-2	N-ethyl perfluorooctanesulfonamide	NEtFOSA
2991-50-6	N-Ethyl-N-[(heptadecafluorooctyl)sulphonyl]glycine	NEtFOSAA
1691-99-2	N-ethylperfluorooctanesulfonamidoethanol	NEtFOSE
31506-32-8	N-methyl perfluoroocatnesulfonamide	NMeFOSA
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA
24448-09-7	N-methylperfluorooctanesulfonamidoethanol	NMeFOSE
151772-58-6	Nonafluoro-3,6-dioxaheptanoic acid	NFDHA
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA
377-73-1	Perfluoro-3-methoxypropanoic acid	PFMPA
863090-89-5	Perfluoro-4-methoxybutanoic acid	PFMBA
375-73-5	Perfluorobutanesulfonic acid	PFBS
375-22-4	Perfluorobutanoic acid	PFBA
335-77-3	Perfluorodecanesulfonic acid	PFDS
335-76-2	Perfluorodecanoic acid	PFDA
79780-39-5	Perfluorododecanesulfonic acid	PFDoS
307-55-1	Perfluorododecanoic acid	PFDoA
375-92-8	Perfluoroheptanesulfonic acid	PFHpS
375-85-9	Perfluoroheptanoic acid	PFHpA
355-46-4	Perfluorohexanesulfonic acid	PFHxS
307-24-4	Perfluorohexanoic acid	PFHxA
68259-12-1	Perfluorononanesulfonic acid	PFNS
375-95-1	Perfluorononanoic acid	PFNA
754-91-6	Perfluorooctanesulfonamide	PFOSA
1763-23-1	Perfluorooctanesulfonic acid	PFOS
335-67-1	Perfluorooctanoic acid	PFOA
2706-91-4	Perfluoropentanesulfonic acid	PFPeS
2706-90-3	Perfluoropentanoic acid	PFPeA
376-06-7	Perfluorotetradecanoic acid	PFTeDA
72629-94-8	Perfluorotridecanoic acid	PFTrDA
2058-94-8	Perfluoroundecanoic acid	PFUnA

Notes:

CAS - Chemical Abstract Service Identification Number
PFAS - Per- and Polyfluorinated Substances

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Soil MSCs [1]	PADEP Nonresidential Soil MSCs [2]		SB-1-1	SB-1-8	SB-2-1	SB-2-8	SB-3-1	SB-3-5	SB-3-9	SB-4-1	SB-4-7	SB-5-1	SB-5-1 DUP	SB-5-7
Laboratory ID					24J1727-04	24J1727-11	24J1727-07	24J1727-08	24J1727-09	24J1981-06	24J1727-10	24J1727-05	24J1727-06	24J2024-01	24J2024-02	24J2024-16
Sample Date					10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/10/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024
Sample Depth (ft bgs)		0.0-15.0'	Surface Soil 0.0-2.0'	Subsurface Soil 2.0-15.0'	1.0	8.0	1.0	8.0	1.0	5.0	9.0	1.0	7.0	1.0	1.0	7.0
PFAS (µg/kg) [3]																
Perfluorobutanoic acid	PFBA	NE	NE	NE	0.8 U	0.79 U	0.78 U	0.79 U	0.78 U	0.8 U	0.77 U	0.8 U	0.78 U	0.78 U	0.79 U	0.79 U
Perfluorohexanoic acid	PFHxA	NE	NE	NE	0.2 U	0.2 U	**0.25**	0.2 U	0.2 U	0.2 U	0.19 U	**0.52**	**0.41**	0.19 U	0.2 U	0.2 U
Perfluoroheptanoic acid	PFHpA	NE	NE	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U
Perfluorooctanoic acid	PFOA	7	7	7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U
Perfluoroundecanoic acid	PFUnA	NE	NE	NE	0.2 U	0.2 U	**0.38**	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U
Perfluorobutanesulfonic acid	PFBS	1,000	2,900	2,900	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	**0.28**	**0.22**	0.19 U	0.2 U	0.2 U
Perfluorohexanesulfonic acid	PFHxS	NE	NE	NE	0.2 U	0.2 U	**1.8**	**0.51**	0.2 U	0.2 U	0.19 U	**5.9**	**5.2**	0.19 U	0.2 U	0.2 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	NE	0.2 U	0.2 U	**0.26**	0.2 U	0.2 U	0.2 U	0.19 U	**0.59**	**1**	0.19 U	0.2 U	0.2 U
Perfluorooctanesulfonic acid	PFOS	7	7	7	**0.27**	0.2 U	**33**	**33**	**0.35**	0.2 U	0.19 U	**320**	**440**	0.19 U	0.2 U	0.2 U
Perfluorodecanesulfonic acid	PFDS	NE	NE	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	**0.39**	0.2 U	0.19 U	0.2 U	0.2 U
Perfluorooctanesulfonamide	PFOSA	NE	NE	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	**0.33**	0.2 U	0.19 U	0.2 U	0.2 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Soil MSCs [1]	PADEP Nonresidential Soil MSCs [2]		SB-6-1	SB-6-7	SB-6-7DUP	SB-7-1	SB-7-18	SB-8-1	SB-8-9	SB-9-1	SB-9-3	SB-10-1	SB-10-19	SB-10-19 DUP
Laboratory ID					24J1981-03	24J1981-04	24J1981-05	24J1981-01	24J1981-02	24J2024-03	24J2024-04	24J2024-09	24J2024-10	24J0749-09	24J0749-10	24J0749-11
Sample Date					10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/2/2024	10/2/2024	10/2/2024
Sample Depth (ft bgs)		0.0-15.0'	Surface Soil 0.0-2.0'	Subsurface Soil 2.0-15.0'	1.0	7.0	7.0	1.0	18.0	1.0	9.0	1.0	3.0	1.0	19.0	19.0
PFAS (µg/kg) [3]																
Perfluorobutanoic acid	PFBA	NE	NE	NE	0.78 U	0.78 U	0.79 U	0.8 U	0.79 U	0.79 U	0.8 U	0.78 U	0.78 U	0.78 U	0.77 U	0.78 U
Perfluorohexanoic acid	PFHxA	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluoroheptanoic acid	PFHpA	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluorooctanoic acid	PFOA	7	7	7	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluoroundecanoic acid	PFUnA	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluorobutanesulfonic acid	PFBS	1,000	2,900	2,900	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluorohexanesulfonic acid	PFHxS	NE	NE	NE	**5.2**	**0.58**	**0.28**	0.2 U	0.2 U	0.2 U	0.2 U	**0.55**	**0.75**	0.19 U	0.19 U	0.2 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	NE	**0.5**	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluorooctanesulfonic acid	PFOS	7	7	7	**34**	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.23**	**14**	**13**	0.19 U	**0.45**	**0.23**
Perfluorodecanesulfonic acid	PFDS	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U
Perfluorooctanesulfonamide	PFOSA	NE	NE	NE	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Soil MSCs [1]	PADEP Nonresidential Soil MSCs [2]		SB-11-1	SB-11-22	SB-12-1	SB-12-2	SB-13-1	SB-13-7	SB-14-1	SB-14-8	SB-18-1	SB-18-20
Laboratory ID					24J0749-07	24J0749-08	24J2024-07	24J2024-08	24J2024-05	24J2024-06	24J1556-04	24J1556-05	24J1556-07	24J1556-08
Sample Date			Surface Soil	Subsurface Soil	10/2/2024	10/2/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/7/2024	10/7/2024	10/8/2024	10/8/2024
Sample Depth (ft bgs)		0.0-15.0'	0.0-2.0'	2.0-15.0'	1.0	22.0	1.0	2.0	1.0	7.0	1.0	8.0	1.0	20.0
PFAS (µg/kg) [3]														
Perfluorobutanoic acid	PFBA	NE	NE	NE	0.79 U	0.78 U	0.78 U	0.79 U	0.78 U	0.79 U	0.94 U	**0.98**	**0.9**	**0.87**
Perfluorohexanoic acid	PFHxA	NE	NE	NE	0.2 U	0.19 U	**1.7**	**1.1**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluoroheptanoic acid	PFHpA	NE	NE	NE	0.2 U	0.19 U	**0.26**	**0.22**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorooctanoic acid	PFOA	7	7	7	0.2 U	0.19 U	**0.79**	**0.8**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluoroundecanoic acid	PFUnA	NE	NE	NE	0.2 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorobutanesulfonic acid	PFBS	1,000	2,900	2,900	0.2 U	0.19 U	**1**	**0.97**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	NE	0.2 U	0.19 U	**1.5**	**1.4**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorohexanesulfonic acid	PFHxS	NE	NE	NE	0.2 U	0.19 U	**15**	**12**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	NE	0.2 U	0.19 U	**1.5**	**0.98**	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorooctanesulfonic acid	PFOS	7	7	7	0.2 U	**0.2**	**180**	**74**	**0.33**	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorodecanesulfonic acid	PFDS	NE	NE	NE	0.2 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U
Perfluorooctanesulfonamide	PFOSA	NE	NE	NE	0.2 U	0.19 U	**0.31**	0.2 U	0.2 U	0.2 U	0.23 U	0.24 U	0.22 U	0.22 U

Notes/Qualifiers:

µg/kg -microgram per kilogram
ft bgs - feet below ground surface
MSC - Medium-Specific Concentration
NE - Not Established
PADEP - Pennsylvania Department of Environmental Protection
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
SB - Soil Boring
TDS - Total Dissolved Solids
U - Non-detect

Bolded - Concentration is detected in the sample.
Shaded - Detected concentration exceeds the Residential Soil MSC.
Boxed - Detected concentration exceeds the Nonresidential Soil MSC

(1) - PADEP Residential MSCs are determined by the lower of the residential Direct Contact and residential Soil-to-Groundwater (Used aquifer; TDS≤2500) values. The Soil-to-Groundwater value is determined by the higher of the 100x Groundwater MSC and Generic Value.

(2) - PADEP Nonresidential MSCs are determined by the lower of the nonresidential Direct Contact and nonresidential Soil-to-Groundwater (Used aquifer; TDS≤2500) values. The Soil-to-Groundwater value is determined by the higher of the 100x Groundwater MSC and Generic Value.

(3) - An additional 28 PFAS compounds were analyzed for, but not detected.

TABLE 3

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER GRAB SAMPLES
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	GWG-1	GWG-2	GWG-3	GWG-4	GWG-5	GWG-6	GWG-6DUP	GWG-7	GWG-7DUP	GWG-8
Laboratory ID				24J1556-01	24J1727-01	24J1727-02	24J1556-02	24J2024-14	24J1981-09	24J1981-10	24J1981-07	24J1981-08	24J2024-15
Sample Date				10/7/2024	10/8/2024	10/8/2024	10/7/2024	10/9/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/9/2024
PFAS (ng/L) [(1)]													
Perfluorobutanoic acid	PFBA	NE	NE	3.9 U	**7.5**	3.8 U	3.9 U	**8.4**	**7.4**	**7.8**	3.9 U	3.9 U	4 U
Perfluoropentanoic acid	PFPeA	NE	NE	1.9 U	**14**	**3.5**	1.9 U	**14**	**14**	**14**	**2.6**	**2.6**	2 U
Perfluorohexanoic acid	PFHxA	NE	NE	0.97 U	**9.6**	**2.4**	0.97 U	**36**	**31**	**30**	**1.9**	**1.8**	1 U
Perfluoroheptanoic acid	PFHpA	NE	NE	0.97 U	**6.2**	**2**	0.97 U	**7.1**	**6.6**	**6.5**	0.97 U	0.98 U	1 U
Perfluorooctanoic acid	PFOA	4	4	0.97 U	**6**	**3.7**	**1.4**	**22**	**20**	**18**	**2.4**	**2.1**	1 U
Perfluorononanoic acid	PFNA	10	10	0.97 U	**1.1**	**1.6**	0.97 U	**11**	**14**	**13**	0.97 U	0.98 U	1 U
Perfluorodecanoic acid	PFDA	NE	NE	0.97 U	0.99 U	0.95 U	0.97 U	1 U	0.97 U	0.99 U	0.97 U	0.98 U	1 U
Perfluoroundecanoic acid	PFUnA	NE	NE	0.97 U	0.99 U	0.95 U	0.97 U	1 U	0.97 U	0.99 U	0.97 U	0.98 U	1 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	0.97 U	**1.2**	**11**	**1.6**	**42**	**30**	**28**	**1.2**	**1**	1 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	0.97 U	0.99 U	0.95 U	0.97 U	**51**	**38**	**40**	0.97 U	0.98 U	1 U
Perfluorohexanesulfonic acid	PFHxS	10	10	0.97 U	**1.1**	**2.4**	0.97 U	**460**	**370**	**370**	**6**	**6**	1 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	0.97 U	0.99 U	0.95 U	0.97 U	**44**	**33**	**29**	0.97 U	0.98 U	1 U
Perfluorooctanesulfonic acid	PFOS	4	4	**2.5**	**1.9**	**7.1**	**2.6**	**1,600**	**1,500**	**1,500**	**1.2**	**1.1**	1 U

TABLE 3

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER GRAB SAMPLES
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	GWG-9	GWG-10	GWG-10 DUP	GWG-11	GWG-12	GWG-13	GWG-14	GWG-15	GWG-16
Laboratory ID				24J2024-11	24J0749-04	24J0749-05	24J0749-03	24J0997-02	24J0997-03	24J1016-01	24J1016-02	24J0997-06
Sample Date				10/9/2024	10/2/2024	10/2/2024	10/2/2024	10/3/2024	10/3/2024	10/4/2024	10/4/2024	10/4/2024
PFAS (ng/L) [1]												
Perfluorobutanoic acid	PFBA	NE	NE	**10**	4 U	3.9 U	4 U	3.8 U	4 U	4 U	**27**	3.9 U
Perfluoropentanoic acid	PFPeA	NE	NE	**19**	**4.1**	**3.8**	**6.3**	1.9 U	**13**	**9.3**	**8.2**	2 U
Perfluorohexanoic acid	PFHxA	NE	NE	**24**	**4.3**	**3.9**	**2**	0.96 U	**3.6**	**5.4**	**4.4**	0.98 U
Perfluoroheptanoic acid	PFHpA	NE	NE	**15**	**1.4**	**1.1**	0.99 U	0.96 U	1 U	**2.9**	**3.4**	0.98 U
Perfluorooctanoic acid	PFOA	4	4	**22**	**2.6**	**2.4**	0.99 U	0.96 U	**2.4**	**1.2**	**19**	0.98 U
Perfluorononanoic acid	PFNA	10	10	**12**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	**2.2**	0.98 U
Perfluorodecanoic acid	PFDA	NE	NE	**7.5**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	1 U	0.98 U
Perfluoroundecanoic acid	PFUnA	NE	NE	**3.7**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	1 U	0.98 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	**10**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	**3.4**	0.98 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	**19**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	1 U	0.98 U
Perfluorohexanesulfonic acid	PFHxS	10	10	**300**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	**5.5**	0.98 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	**21**	1 U	0.99 U	0.99 U	0.96 U	1 U	1 U	1 U	0.98 U
Perfluorooctanesulfonic acid	PFOS	4	4	**2,800**	1 U	0.99 U	0.99 U	0.96 U	1 U	**1.3**	**15**	**3.1**

TABLE 3

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER GRAB SAMPLES
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	GWG-17	GWG-18	GWG-20	GWG-21	GWG-22	GWG-23	GWG-24	GWG-25	GWG-34
Laboratory ID				24J0997-05	24J1556-09	24J1556-03	24J0749-01	24J0749-02	24J0749-06	24J0749-13	24J1727-03	24J0997-01
Sample Date				10/4/2024	10/8/2024	10/7/2024	10/1/2024	10/1/2024	10/2/2024	10/3/2024	10/8/2024	10/3/2024
PFAS (ng/L) [(1)]												
Perfluorobutanoic acid	PFBA	NE	NE	4 U	3.8 U	3.9 U	3.9 U	4.1 U	3.9 U	4 U	3.9 U	**4.7**
Perfluoropentanoic acid	PFPeA	NE	NE	2 U	**8**	2 U	**7.5**	**4.7**	**8.9**	2 U	1.9 U	**9.7**
Perfluorohexanoic acid	PFHxA	NE	NE	1 U	**5.5**	**1.5**	**4.6**	**3.1**	**6.1**	**1.7**	0.97 U	**17**
Perfluoroheptanoic acid	PFHpA	NE	NE	1 U	**3.7**	0.98 U	**1.9**	1 U	**2.4**	**1.3**	0.97 U	**4.6**
Perfluorooctanoic acid	PFOA	4	4	1 U	**5.5**	**5.4**	**7.2**	**1.1**	**7.6**	**6**	**1.1**	**11**
Perfluorononanoic acid	PFNA	10	10	1 U	0.94 U	0.98 U	**1.6**	1 U	**3.2**	1 U	0.97 U	**21**
Perfluorodecanoic acid	PFDA	NE	NE	1 U	0.94 U	0.98 U	0.96 U	1 U	0.97 U	1 U	0.97 U	1 U
Perfluoroundecanoic acid	PFUnA	NE	NE	1 U	0.94 U	0.98 U	0.96 U	1 U	0.97 U	1 U	0.97 U	1 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1 U	0.94 U	**9.5**	**4.1**	1 U	**3.7**	1 U	**1.4**	**9.9**
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1 U	0.94 U	0.98 U	0.96 U	1 U	**2.4**	1 U	0.97 U	**11**
Perfluorohexanesulfonic acid	PFHxS	10	10	1 U	**1.1**	0.98 U	**2**	1 U	**20**	**1.1**	**1.9**	**120**
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1 U	0.94 U	0.98 U	0.96 U	1 U	0.97 U	1 U	0.97 U	**7.2**
Perfluorooctanesulfonic acid	PFOS	4	4	**3.1**	**5.4**	**1.7**	**9**	1 U	**5.9**	**1.5**	0.97 U	**190**

Notes/Qualifiers:

µg/L - microgram per liter
GWG - Groundwater Grab
HI - Hazard Index
mg/L - milligram per liter
MSC - Medium-Specific Concentration
N/A - Not Applicable
NE - Not Established
ng/L - nanogram per liter
PADEP - Pennsylvania Department of Environmental Protection
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
TDS - Total Dissolved Solids
TSS - Total Suspended Solids
U - Non-detect

Bolded - Concentration is detected in the sample.
Shaded - Detected concentration exceeds the Residential Groundwater MSC.
Boxed - Detected concentration exceeds the Nonresidential MSC

(1) - An additional 27 PFAS compounds were analyzed for, but not detected.

Table 4
Groundwater Monitoring Well Survey Data
December 2024
Saegertown PFAS Site

Well	Northing	Easting	Ground Surface Elevation (MSL)	Top of Casing Elevation		Depth to Water (TOC-PVC)	Groundwater Elevation (MSL)	Total Well Depth (BGS)
				(Steel)	(PVC)			
BMW-1	574,061.22	1,315,870.61	1,121.02	1,124.06	1,123.57	21.97	1,101.60	27.2
BMW-2	574,243.27	1,315,396.55	1,112.17	1,115.28	1,114.68	18.55	1,096.13	23.4
BMW-3	574,224.04	1,315,244.18	1,113.58	1,116.74	1,116.33	21.00	1,095.33	27.0
BMW-4	574,345.83	1,315,035.72	1,115.03	1,118.13	1,117.54	21.33	1,096.21	26.6
BMW-5	574,470.58	1,314,704.74	1,112.96	1,112.93	1,112.57	15.83	1,096.74	23.8
BMW-6	574,713.25	1,314,267.19	1,114.23	1,114.17	1,113.76	16.65	1,097.11	23.5
BMW-7	575,052.52	1,314,677.63	1,114.85	1,114.86	1,114.54	17.82	1,096.72	25.4
BMW-8	573,034.54	1,315,402.87	1,108.13	1,110.57	1,109.83	11.02	1,098.81	13.6
BMW-9	573,869.85	1,314,415.97	1,110.29	1,110.26	1,109.70	12.83	1,096.87	21.9
BMW-10	573,005.03	1,314,808.89	1,108.48	1,111.55	1,111.02	13.52	1,097.50	22.2
OB-6-50	573,928.75	1,315,353.33	1,112.11	1,115.14	1,115.10	20.50	1,094.60	31.8
OB-6-100	573,793.29	1,315,342.05	1,112.31	1,115.41	1,115.35	19.04	1,096.31	31.8
0B-7-50	574,060.44	1,315,353.83	1,112.78	1,115.78	1,115.83	20.94	1,094.89	34.0
OB-7-100	574,101.15	1,315,446.32	1,112.71	1,115.80	1,115.82	20.10	1,095.72	28.8
GM-15S (MW-15S)	572,531.09	1,314,529.56	N/A	1,109.58	1,109.35	11.38	1,097.97	18.4
GM-15D (MW-15D)	572,536.27	1,314,527.42	N/A	1,109.72	1,109.41	12.21	1,097.20	39.4
GM-23S	572,678.29	1,314,956.38	N/A	N/A	1,109.96	12.54	1,097.42	15.0
GM-23D	572,678.29	1,314,956.38	N/A	N/A	1,109.77	N/A	N/A	35.7
GM-24S (MW-24S)	572,965.15	1,315,074.38	N/A	N/A	1,109.36	6.90	1,102.46	11.0
GM-24D (MW-24D)	572,964.72	1,315,070.17	N/A	N/A	1,109.44	9.32	1,100.12	28.0

Table 4
Groundwater Monitoring Well Survey Data
December 2024
Saegertown PFAS Site

Well	Northing	Easting	Ground Surface Elevation (MSL)	Top of Casing Elevation		Depth to Water (TOC-PVC)	Groundwater Elevation (MSL)	Total Well Depth (BGS)
				(Steel)	(PVC)			
W7S	572,347.61	1,314,933.32	N/A	N/A	1,108.09	10.41	1,097.68	14.5
W7D	572,347.61	1,314,933.32	N/A	N/A	1,107.56	11.20	1,096.36	39.5
GM-13S	572,600.20	1,314,977.05	N/A	N/A	1,107.90	9.76	1,098.14	17.6
GM-13D	572,600.20	1,314,977.05	N/A	N/A	1,107.97	13.33	1,094.64	30.2
GM-14S	572,107.45	1,314,919.65	N/A	N/A	1,107.78	10.10	1,097.68	15.0
GM-14D	572,107.45	1,314,919.65	N/A	N/A	1,107.71	10.72	1,096.99	34.5
SBMW-1	573,443.77	1,315,991.64	1,121.67	N/A	1,124.79	22.93	1,101.86	50.5
PW-1	574,735.56	1,314,066.48	N/A	1,116.61	N/A	18.75	1,097.86	62.0
PW-2	574,861.31	1,314,649.62	N/A	1,117.64	N/A	20.40	1,097.24	49.0
PW-6	573,888.87	1,315,351.63	N/A	1,115.22	N/A	N/A	N/A	60.0
PW-7	574,102.12	1,315,356.57	N/A	1,115.91	N/A	N/A	N/A	49.0
SBW	574,858.57	1,314,661.61	N/A	1,114.61	N/A	N/A	N/A	85.0

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
MSL - Mean Sea Level
TOC - Top of Casing
BGS - Below Ground Surface
SBMW - Saegertown Borough Monitoring Well
BMW - Baker Monitoring Well Designation

Table 5
Groundwater Monitoring Well Survey Data
March/April 2025
Saegertown PFAS Site

Well	Northing	Easting	Ground Surface Elevation (MSL)	Top of Casing Elevation		Depth to Water (TOC-PVC)	Groundwater Elevation (MSL)	Total Well Depth (BGS)
				(Steel)	(PVC)			
BMW-1	574,061.22	1,315,870.61	1,121.02	1,124.06	1,123.57	14.81	1,108.76	27.2
BMW-2	574,243.27	1,315,396.55	1,112.17	1,115.28	1,114.68	9.73	1,104.95	23.4
BMW-3	574,224.04	1,315,244.18	1,113.58	1,116.74	1,116.33	12.28	1,104.05	27.0
BMW-4	574,345.83	1,315,035.72	1,115.03	1,118.13	1,117.54	13.42	1,104.12	26.6
BMW-5	574,470.58	1,314,704.74	1,112.96	1,112.93	1,112.57	8.71	1,103.86	23.8
BMW-6	574,713.25	1,314,267.19	1,114.23	1,114.17	1,113.76	9.77	1,103.99	23.5
BMW-7	575,052.52	1,314,677.63	1,114.85	1,114.86	1,114.54	10.05	1,104.49	25.4
BMW-8	573,034.54	1,315,402.87	1,108.13	1,110.57	1,109.83	4.39	1,105.44	13.6
BMW-9	573,869.85	1,314,415.97	1,110.29	1,110.26	1,109.70	6.09	1,103.61	21.9
BMW-10	573,005.03	1,314,808.89	1,108.48	1,111.55	1,111.02	9.14	1,101.88	22.2
OB-6-50	573,928.75	1,315,353.33	1,112.11	1,115.14	1,115.10	10.91	1,104.19	31.8
OB-6-100	573,793.29	1,315,342.05	1,112.31	1,115.41	1,115.35	10.89	1,104.46	31.8
0B-7-50	574,060.44	1,315,353.83	1,112.78	1,115.78	1,115.83	11.65	1,104.18	34.0
OB-7-100	574,101.15	1,315,446.32	1,112.71	1,115.80	1,115.82	11.30	1,104.52	28.8
GM-15S (MW-15S)	572,531.09	1,314,529.56	N/A	1,109.58	1,109.35	9.45	1,099.90	18.4
GM-15D (MW-15D)	572,536.27	1,314,527.42	N/A	1,109.72	1,109.41	11.29	1,098.12	39.4
GM-23S	572,678.29	1,314,956.38	N/A	N/A	1,109.96	8.55	1,101.41	15.0
GM-23D	572,678.29	1,314,956.38	N/A	N/A	1,109.77	11.87	1,097.90	35.7
GM-24S (MW-24S)	572,965.15	1,315,074.38	N/A	N/A	1,109.36	5.54	1,103.82	11.0
GM-24D (MW-24D)	572,964.72	1,315,070.17	N/A	N/A	1,109.44	5.86	1,103.58	28.0

Table 5
Groundwater Monitoring Well Survey Data
March/April 2025
Saegertown PFAS Site

Well	Northing	Easting	Ground Surface Elevation (MSL)	Top of Casing Elevation		Depth to Water (TOC-PVC)	Groundwater Elevation (MSL)	Total Well Depth (BGS)
				(Steel)	(PVC)			
W7S	572,347.61	1,314,933.32	N/A	N/A	1,108.09	7.62	1,100.47	14.5
W7D	572,347.61	1,314,933.32	N/A	N/A	1,107.56	7.37	1,100.19	39.5
GM-13S	572,600.20	1,314,977.05	N/A	N/A	1,107.90	7.00	1,100.90	17.6
GM-13D	572,600.20	1,314,977.05	N/A	N/A	1,107.97	10.71	1,097.26	30.2
GM-14S	572,107.45	1,314,919.65	N/A	N/A	1,107.78	7.85	1,099.93	15.0
GM-14D	572,107.45	1,314,919.65	N/A	N/A	1,107.71	7.91	1,099.80	34.5
SBMW-1	573,443.77	1,315,991.64	1,121.67	N/A	1,124.79	16.57	1,108.22	50.5
PW-1	574,735.56	1,314,066.48	N/A	1,116.61	N/A	11.80	1,104.81	62.0
PW-2	574,861.31	1,314,649.62	N/A	1,117.64	N/A	12.47	1,105.17	49.0
PW-6	573,888.87	1,315,351.63	N/A	1,115.22	N/A	N/A	N/A	60.0
PW-7	574,102.12	1,315,356.57	N/A	1,115.91	N/A	N/A	N/A	49.0
SBW	574,858.57	1,314,661.61	N/A	1,114.61	N/A	N/A	N/A	85.0

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
MSL - Mean Sea Level
TOC - Top of Casing
BGS - Below Ground Surface
SBMW - Saegertown Borough Monitoring Well
BMW - Baker Monitoring Well Designation

Table 6
Summary of Aqueous Field Parameter Data
December 2024
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^{o})	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential
BMW-1	12/2/24	11.5	0.503	4.66	7.28	22.32	52.7
BMW-2	12/5/24	11.1	1.579	4.74	7.41	42.77	47.1
BMW-3	12/5/24	11.0	1.627	3.03	7.48	86.97	88.2
BMW-4	12/4/24	9.6	0.606	5.68	7.29	32.16	136.8
BMW-5	12/4/24	11.7	0.518	5.34	6.85	7.32	190.5
BMW-6	12/3/24	13.0	0.733	3.81	7.20	8.78	213.8
BMW-7	12/3/24	12.8	0.864	6.78	6.81	4.62	214.8
BMW-8	12/3/24	8.6	0.839	6.33	6.78	91.06	179.3
BMW-9	12/3/24	12.2	0.500	4.61	7.45	10.10	52.5
BMW-10	12/3/24	12.5	1.394	0.03	7.16	26.33	-84.7
OB-6-50	12/4/24	10.4	0.907	4.76	6.66	3.71	231.3
OB-6-100	12/4/24	9.4	0.528	3.18	7.42	3.30	202.8
0B-7-50	12/4/24	9.7	1.292	0.48	7.09	5.20	214.6
OB-7-100	12/4/24	7.7	0.205	6.20	6.60	7.26	259.7
GM-15S (MW-15S)	12/4/24	14.2	1.844	3.03	6.30	6.48	247.0
GM-15D (MW-15D)	12/4/24	11.7	1.205	0.10	7.35	32.79	-126.2
GM-23S	12/6/24	N/A	N/A	N/A	N/A	N/A	N/A
GM-23D	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GM-24S (MW-24S)	12/3/24	13.0	0.382	7.90	6.88	4.46	199.2
GM-24D (MW-24D)	12/3/24	14.2	0.545	2.14	7.46	23.45	164.4

Table 6
Summary of Aqueous Field Parameter Data
December 2024
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^o)	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential
W7S	12/6/24	14.5	1.210	0.04	6.45	21.07	164.9
W7D	12/6/24	12.8	0.395	0.03	8.36	41.69	-133.0
GM-13S	12/6/24	13.0	0.820	0.10	6.60	9.14	42.8
GM-13D	12/6/24	13.5	1.223	2.69	7.22	18.51	189.7
GM-14S	12/5/24	11.1	0.589	3.60	6.52	4.76	170.9
GM-14D	12/5/24	12.5	0.471	0.15	7.67	23.33	-5.1
SBMW-1	12/3/24	9.4	0.497	0.01	7.85	8.26	-102.3
PW-1	12/4/24	11.2	0.650	10.50	7.52	81.54	208.3
PW-2	12/4/24	11.1	0.594	9.73	7.47	0.54	200.2
PW-6	12/4/24	10.5	0.679	5.69	7.28	0.27	222.3
PW-7	12/4/24	11.3	1.030	2.13	7.46	1.20	48.6
SBW	12/4/24	11.7	0.581	5.77	7.40	0.31	141.0

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
C^o - degrees Celsius
µs/cm - microsiemens per centimeter
mg/L - milligrams per liter
SBMW - Saegertown Borough Monitoring Well
BMW - Baker Monitoring Well Designation
PW - Pumping Well
S.U. - Standard Units
mV - millivolts

Table 7
Summary of Aqueous Field Parameter Data
March/April 2025
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^{o})	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential
BMW-1	3/31/25	10.5	0.485	5.48	7.12	16.42	138.2
BMW-2	4/2/25	6.2	1.456	8.38	7.4	19.16	18.7
BMW-3	4/2/25	6.7	1.311	6.68	6.84	14.18	61.8
BMW-4	3/31/25	9.9	1.164	5.55	6.88	13.80	157.8
BMW-5	4/1/25	6.6	0.710	9.11	6.83	8.71	52.2
BMW-6	3/31/25	5.2	1.236	9.04	7.07	4.71	149.1
BMW-7	3/31/25	6.4	0.677	9.77	7.14	6.04	135.7
BMW-8	3/31/25	4.6	0.601	4.65	6.40	5.01	122.1
BMW-9	3/31/25	6.1	0.720	8.62	7.45	12.10	114.1
BMW-10	4/2/25	8.8	1.770	4.24	6.75	33.54	181.9
OB-6-50	4/2/25	7.0	0.980	7.00	6.65	6.51	123.4
OB-6-100	4/1/25	9.6	0.561	1.80	7.65	1.45	176.5
0B-7-50	4/2/25	7.1	1.297	0.36	7.14	5.85	97.2
OB-7-100	4/2/25	4.6	1.066	8.83	6.29	2.85	167.3
GM-15S (MW-15S)	4/1/25	5.5	0.695	5.72	6.61	9.76	193.0
GM-15D (MW-15D)	4/1/25	8.3	1.292	0.00	7.23	37.44	-132.5
GM-23S	4/1/25	7.8	6.024	8.78	6.80	4.89	217.3
GM-23D	4/1/25	12.1	0.572	1.90	7.67	43.65	123.8
GM-24S (MW-24S)	4/1/25	5.3	3.413	8.83	6.51	2.75	213.2
GM-24D (MW-24D)	4/1/25	7.7	2.420	0.22	7.27	4.70	148.9

Table 7
Summary of Aqueous Field Parameter Data
March/April 2025
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^o)	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential
W7S	4/1/25	8.9	1.085	3.38	6.17	6.91	193.1
W7D	4/1/25	12.7	0.395	0.64	8.12	30.84	-15.8
GM-13S	4/1/25	4.4	3.346	5.42	6.10	9.81	119.1
GM-13D	4/1/25	7.8	1.298	5.18	7.37	25.52	111.3
GM-14S	4/1/25	7.3	2.732	6.47	6.48	2.47	193.2
GM-14D	4/1/25	6.9	0.517	0.05	7.70	48.77	12.0
SBMW-1	4/2/25	10.0	0.510	0.34	7.82	8.80	-135.2
PW-1	4/3/25	14.0	0.642	8.72	7.56	154.43	190.8
PW-2	4/3/25	12.5	0.811	9.79	7.32	0.54	200.5
PW-6	4/3/25	11.7	0.665	6.31	7.22	12.63	203.7
PW-7	4/3/25	12.8	1.157	3.16	7.43	1.56	15.6
SBW	4/2/25	12.6	0.615	7.95	7.40	0.00	118.4

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
C^o - degrees Celsius
µs/cm - microsiemens per centimeter
mg/L - milligrams per liter
SBMW - Saegertown Borough Monitoring Well
BMW - Baker Monitoring Well Designation
PW - Pumping Well
S.U. - Standard Units
mV - millivolts

TABLE 8

SUMMARY OF DETECTED ANALYTICAL RESULTS - DECEMBER 2024 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	BMW-1	BMW-2	BMW-3	BMW-3 DUP	BMW-4	BMW-5	BMW-6	BMW-7	BMW-8	BMW-9	BMW-10	GM-13S
Lab Sample/Well ID:				24L0334-01	24L0503-08	24L0503-06	24L0503-07	24L0503-05	24L0334-13	24L0334-07	24L0334-06	24L0334-05	24L0334-08	24L0334-10	24L0567-02
Sample Date:				12/2/2024	12/5/2024	12/5/2024	12/5/2024	12/4/2024	12/4/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/6/2024
PFAS (ng/L) [1]															
Perfluorobutanoic acid	PFBA	NE	NE	6.6 U	130 U	64 U	130 U	**8.2**	6.1 U	5.9 U	5.9 U	**79**	**9.6**	6.6 U	6.4 U
Perfluoropentanoic acid	PFPeA	NE	NE	3.3 U	64 U	**85**	**74**	**14**	**9.5**	**11**	3 U	**23**	**4.4**	3.3 U	3.2 U
Perfluorohexanoic acid	PFHxA	NE	NE	1.6 U	**47**	**41**	**54**	**26**	**15**	**7.6**	1.5 U	**17**	**4**	1.7 U	**1.7**
Perfluoroheptanoic acid	PFHpA	NE	NE	1.6 U	32 U	16 U	32 U	**5.5**	**4.2**	**2.9**	1.5 U	**7.8**	**2**	1.7 U	1.6 U
Perfluorooctanoic acid	PFOA	4	4	1.6 U	**38**	16 U	32 U	**19**	**12**	**9.2**	**5.5**	**44**	**11**	1.7 U	**2.8**
Perfluorononanoic acid	PFNA	10	10	1.6 U	32 U	16 U	32 U	**14**	**20**	**2.8**	1.5 U	**3.6**	1.5 U	1.7 U	1.6 U
Perfluoroundecanoic acid	PFUnA	NE	NE	1.6 U	32 U	16 U	32 U	1.6 U	1.5 U	1.5 U	1.5 U	1.6 U	1.5 U	1.7 U	1.6 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1.6 U	32 U	16 U	32 U	**27**	**4.9**	**2.2**	1.5 U	**5**	**11**	1.7 U	1.6 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1.6 U	**39**	16 U	32 U	**34**	**5.2**	1.5 U	1.5 U	1.6 U	1.5 U	1.7 U	1.6 U
Perfluorohexanesulfonic acid	PFHxS	10	10	1.6 U	**710**	**290**	**560**	**360**	**63**	**11**	1.5 U	**5.2**	1.5 U	1.7 U	1.6 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1.6 U	32 U	16 U	32 U	**24**	**4.5**	1.5 U	1.5 U	1.6 U	1.5 U	1.7 U	1.6 U
Perfluorooctanesulfonic acid	PFOS	4	4	1.6 U	**3,500**	**2,200**	**3,500**	**1,000**	**110**	**2.8**	1.5 U	**4.5**	1.5 U	1.7 U	**4.1**
Calculated HI [2]															
Gen-X, PFBS, PFHxS, PFNA [3]			1 [4]	*N/A*	*N/A*	*N/A*	*N/A*	**37.4**	**8.3**	**1.4**	*N/A*	**0.9**	*N/A*	*N/A*	*N/A*

TABLE 8

SUMMARY OF DETECTED ANALYTICAL RESULTS - DECEMBER 2024 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GM-13D	GM-14S	GM-14D	GM-15S	GM-15D	GM-23S	GM-24S	GM-24S DUP	GM-24D	OB-6-50	OB-6-100
Lab Sample/Well ID:				24L0567-01	24L0638-01	24L0638-02	24L0503-02	24L0503-03	24L0567-05	24L0334-02	24L0334-03	24L0334-04	24L0503-09	24L0334-11
Sample Date:				12/6/2024	12/5/2024	12/5/2024	12/4/2024	12/4/2024	12/6/2024	12/3/2024	12/3/2024	12/3/2024	12/5/2024	12/4/2024
PFAS (ng/L) [1]														
Perfluorobutanoic acid	PFBA	NE	NE	6.1 U	6.4 U	6 U	5.8 U	6.5 U	**11**	6.4 U	6.4 U	6.1 U	**9.7**	5.8 U
Perfluoropentanoic acid	PFPeA	NE	NE	3 U	3.2 U	3 U	2.9 U	3.2 U	**4.2**	3.2 U	3.2 U	3.1 U	**18**	2.9 U
Perfluorohexanoic acid	PFHxA	NE	NE	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	**1.7**	1.6 U	1.6 U	1.5 U	**38**	1.4 U
Perfluoroheptanoic acid	PFHpA	NE	NE	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**10**	1.4 U
Perfluorooctanoic acid	PFOA	4	4	**2.1**	1.6 U	1.5 U	**1.9**	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**28**	1.4 U
Perfluorononanoic acid	PFNA	10	10	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**22**	1.4 U
Perfluoroundecanoic acid	PFUnA	NE	NE	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	1.5 U	1.4 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1.5 U	**3.7**	1.5 U	**1.9**	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**38**	1.4 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**45**	1.4 U
Perfluorohexanesulfonic acid	PFHxS	10	10	1.5 U	**3.3**	1.5 U	1.4 U	1.6 U	1.5 U	**5.8**	**6.6**	**7**	**490**	1.4 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1.5 U	1.6 U	1.5 U	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.5 U	**40**	1.4 U
Perfluorooctanesulfonic acid	PFOS	4	4	1.5 U	**6.3**	**1.6**	**3.4**	1.6 U	1.5 U	**34**	**33**	**22**	**2,100**	1.4 U
Calculated HI [2]														
Gen-X, PFBS, PFHxS, PFNA [3]		1 [4]		*N/A*	**0.3**	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	**51.2**	*N/A*

TABLE 8

SUMMARY OF DETECTED ANALYTICAL RESULTS - DECEMBER 2024 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	OB-7-50	OB-7-100	PW-1	PW-2	PW-6	PW-7	PW-7 DUP	SBW	SBMW-1	W7S	W7D
Lab Sample/Well ID:				24L0503-01	24L0503-04	24L0334-15	24L0334-14	24L0334-16	24L0334-17	24L0334-18	24L0334-12	24L0334-09	24L0567-04	24L0567-03
Sample Date:				12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/3/2024	12/6/2024	12/6/2024
PFAS (ng/L) [1]														
Perfluorobutanoic acid	PFBA	NE	NE	6 U	5.7 U	6.6 U	6.4 U	6.5 U	6.2 U	6.4 U	6.5 U	6.3 U	6 U	6.5 U
Perfluoropentanoic acid	PFPeA	NE	NE	**6.8**	2.8 U	3.3 U	3.2 U	**5.3**	3.1 U	3.2 U	**4.3**	3.2 U	3 U	3.2 U
Perfluorohexanoic acid	PFHxA	NE	NE	**15**	**4.4**	**1.7**	1.6 U	**6.1**	**4.4**	**4.4**	**8.1**	1.6 U	**1.7**	1.6 U
Perfluoroheptanoic acid	PFHpA	NE	NE	**7.4**	1.4 U	1.6 U	1.6 U	**2**	**1.9**	**1.8**	**2**	1.6 U	1.5 U	1.6 U
Perfluorooctanoic acid	PFOA	4	4	**21**	**3**	**2.7**	**2.1**	**4.7**	**6.3**	**6.1**	**6.9**	1.6 U	**1.9**	1.6 U
Perfluorononanoic acid	PFNA	10	10	**13**	**1.6**	1.6 U	**1.7**	**2.9**	1.6 U	1.6 U	**7.4**	1.6 U	1.5 U	1.6 U
Perfluoroundecanoic acid	PFUnA	NE	NE	1.5 U	**1.7**	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.5 U	1.6 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	**19**	**4.5**	1.6 U	**2.2**	**5.3**	**6**	**5.8**	**7**	1.6 U	**17**	1.6 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	**34**	**5.3**	1.6 U	1.6 U	**6.2**	**12**	**10**	**7.6**	1.6 U	1.5 U	1.6 U
Perfluorohexanesulfonic acid	PFHxS	10	10	**380**	**130**	1.6 U	**15**	**74**	**120**	**110**	**76**	1.6 U	**6.4**	1.6 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	**15**	**3.8**	1.6 U	1.6 U	**3.2**	**5.2**	**4.8**	**3.9**	1.6 U	1.5 U	1.6 U
Perfluorooctanesulfonic acid	PFOS	4	4	**620**	**340**	1.6 U	**19**	**160**	**250**	**240**	**72**	1.6 U	**6.5**	1.6 U
Calculated HI [2]														
Gen-X, PFBS, PFHxS, PFNA [3]			1 [4]	**39.3**	**13.2**	*N/A*	**1.7**	**7.7**	**12.0**	**11.0**	**8.3**	*N/A*	**0.6**	*N/A*

Notes/Qualifiers:

- - Not Analyzed	MSC - Medium-Specific Concentration	PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
µg/L - microgram per liter	N/A - Not Applicable	PW - Pumping Well
BMW - Baker Monitoring Well	NE - Not Established	SBMW - Saegertown Borough Monitoring Well
EP - Entry Point	ng/L - nanogram per liter	SBW - Saegertown Beverage Well
GM - Geraghty & Miller	OB - Observation Boring	TDS - Total Dissolved Solids
HI - Hazard Index	PADEP - Pennsylvania Department of Environmental Protection	U - Non-detect

Bolded - Concentration is detected in the sample.
Shaded - Detected concentration exceeds the Residential Groundwater MSC.
Boxed - Detected concentration exceeds the Nonresidential MSC

[1] - An additional 28 PFAS compounds were analyzed for, but not detected.

[2] - If more than one of the identified compounds (Gen-X, PFBS, PFHxS, and PFNA) are detected at any concentration in a sample, a Hazard Index (HI) must be calculated using the equation below. HIs are calculated using detected values only:

$$HI = \left(\frac{C_{Gen-X}}{0.01}\right) + \left(\frac{C_{PFBS}}{2}\right) + \left(\frac{C_{PFNA}}{0.01}\right) + \left(\frac{C_{PFHxS}}{0.01}\right)$$

where:
C_{Gen-X} = concentration of Gen-X
C_{PFBS} = concentration of PFBS
C_{PFNA} = concentration of PFNA
C_{PFHxS} = concentration of PFHxS

concentrations are in µg/L

[3] - Gen-X was not detected in any of the samples

[4] - USEPA Hazard Index Maximum Contaminant Level (MCL)

TABLE 9

SUMMARY OF DETECTED ANALYTICAL RESULTS - MARCH/APRIL 2025 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	BMW-1	BMW-2	BMW-3	BMW-4	BMW-4 DUP	BMW-5	BMW-6	BMW-7	BMW-8	BMW-9	BMW-10	GM-13S	GM-13D
Lab Sample/Well ID:				25D0211-03	25D0377-01	25D0377-02	25D0211-05	25D0211-06	25D0150-10	25D0211-07	25D0211-04	25D0211-01	25D0211-02	25D0377-03	25D0211-10	25D0150-01
Sample Date:				3/31/2025	4/2/2025	4/2/2025	3/31/2025	3/31/2025	4/1/2025	3/31/2025	3/31/2025	3/31/2025	3/31/2025	4/2/2025	4/1/2025	4/1/2025
PFAS (ng/L) [1]																
Perfluorobutanoic acid	PFBA	NE	NE	6.3 U	130 U	640 U	32 U	32 U	6 U	6.1 U	6 U	6.6 U	5.9 U	6.5 U	6.1 U	5.9 U
Perfluoropentanoic acid	PFPeA	NE	NE	3.2 U	64 U	320 U	16 U	16 U	**9.3**	3 U	3 U	3.3 U	3 U	3.2 U	3.1 U	3 U
Perfluorohexanoic acid	PFHxA	NE	NE	1.6 U	**48**	**420**	**23**	**21**	**16**	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	**1.8**	**1.6**
Perfluoroheptanoic acid	PFHpA	NE	NE	1.6 U	32 U	**200**	8 U	8 U	**4.6**	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.5 U	1.5 U
Perfluorooctanoic acid	PFOA	4	4	1.6 U	**44**	**300**	**20**	**18**	**12**	1.5 U	**1.9**	1.6 U	**3.2**	1.6 U	**2.7**	**2.3**
Perfluorononanoic acid	PFNA	10	10	1.6 U	32 U	**260**	**22**	**20**	**19**	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.5 U	1.5 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1.6 U	32 U	160 U	**20**	**21**	**6.8**	**1.6**	1.5 U	1.6 U	**18**	1.6 U	**1.5**	1.5 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1.6 U	**58**	**200**	**23**	**23**	**8.1**	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.5 U	1.5 U
Perfluorohexanesulfonic acid	PFHxS	10	10	1.6 U	**1,200**	**4,600**	**320**	**300**	**85**	**5.1**	1.5 U	1.6 U	1.5 U	**5.5**	1.5 U	1.5 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1.6 U	**40**	**210**	**25**	**23**	**6.4**	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.5 U	1.5 U
Perfluorooctanesulfonic acid	PFOS	4	4	1.6 U	**6,900**	**36,000**	**1,700**	**1,400**	**200**	1.5 U	1.5 U	1.6 U	1.5 U	**7.4**	**3**	1.5 U
Calculated HI [2]																
Gen-X, PFBS, PFHxS, PFNA [3]		1 [4]		*N/A*	*N/A*	**486.0**	**34.2**	**32.0**	**10.4**	**0.5**	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

TABLE 9

SUMMARY OF DETECTED ANALYTICAL RESULTS - MARCH/APRIL 2025 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	GM-14S	GM-14D	GM-15S	GM-15D	GM-23S	GM-23D	GM-24S	GM-24D	OB-6-50	OB-6-100	OB-7-50	OB-7-100
Lab Sample/Well ID:				25D0211-08	25D0211-09	25D0150-06	25D0150-08	25D0150-07	25D0150-05	25D0150-04	25D0150-03	25D0150-11	25D0150-09	25D0150-13	25D0150-14
Sample Date:				4/1/2025	4/1/2025	4/1/2025	4/1/2025	4/1/2025	4/1/2025	4/1/2025	4/1/2025	4/2/2025	4/1/2025	4/2/2025	4/2/2025
PFAS (ng/L) [1]															
Perfluorobutanoic acid	PFBA	NE	NE	**8.1**	6.3 U	6.3 U	6 U	**19**	6.6 U	5.9 U	5.8 U	**9.8**	6.5 U	6.1 U	6.4 U
Perfluoropentanoic acid	PFPeA	NE	NE	**8.8**	3.2 U	3.1 U	3 U	3.3 U	3.3 U	3 U	2.9 U	**18**	3.3 U	**4.3**	3.2 U
Perfluorohexanoic acid	PFHxA	NE	NE	**6.3**	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	**3.3**	1.5 U	**31**	1.6 U	**9.2**	1.6 U
Perfluoroheptanoic acid	PFHpA	NE	NE	**2.6**	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	1.5 U	1.5 U	**11**	1.6 U	**4.6**	1.6 U
Perfluorooctanoic acid	PFOA	4	4	**4**	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	**2.9**	1.5 U	**22**	1.6 U	**14**	1.6 U
Perfluorononanoic acid	PFNA	10	10	1.7 U	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	1.5 U	1.5 U	**20**	1.6 U	**16**	1.6 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	**10**	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	1.5 U	1.5 U	**21**	1.6 U	**13**	1.6 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1.7 U	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	1.5 U	1.5 U	**27**	1.6 U	**24**	1.6 U
Perfluorohexanesulfonic acid	PFHxS	10	10	**9.9**	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	**35**	**3.9**	**400**	1.6 U	**280**	**25**
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1.7 U	1.6 U	1.6 U	1.5 U	1.6 U	1.7 U	1.5 U	1.5 U	**24**	1.6 U	**12**	1.6 U
Perfluorooctanesulfonic acid	PFOS	4	4	**6.3**	1.6 U	**2**	1.5 U	1.6 U	1.7 U	**36**	**6.2**	**1,400**	1.6 U	**380**	**62**
Calculated HI [2]															
Gen-X, PFBS, PFHxS, PFNA [3]		1 [4]		**1.0**	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	**42.0**	*N/A*	**29.6**	*N/A*

TABLE 9

SUMMARY OF DETECTED ANALYTICAL RESULTS - MARCH/APRIL 2025 GROUNDWATER SAMPLING EVENT
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)	PW-1	PW-2	PW-6	PW-6 DUP	PW-7	SBW	SBMW-1	W7S	W7S-DUP	W7D
Lab Sample/Well ID:				25D0377-05	25D0377-06	25D0377-07	25D0377-08	25D0377-09	25D0150-12	25D0150-15	25D0211-11	25D0211-12	25D0150-02
Sample Date:				4/3/2025	4/3/2025	4/3/2025	4/3/2025	4/3/2025	4/2/2025	4/2/2025	4/1/2025	4/1/2025	4/1/2025
PFAS (ng/L) [1]													
Perfluorobutanoic acid	PFBA	NE	NE	6.2 U	6.6 U	6.4 U	6.7 U	6.3 U	6.7 U	6 U	6.5 U	6.7 U	6.4 U
Perfluoropentanoic acid	PFPeA	NE	NE	**3.2**	3.3 U	**5.4**	**5.5**	3.2 U	**5.8**	3 U	**4**	**4.3**	3.2 U
Perfluorohexanoic acid	PFHxA	NE	NE	**2.1**	1.7 U	**6.4**	**6.9**	**4.8**	**9.9**	1.5 U	**2.5**	**2.7**	1.6 U
Perfluoroheptanoic acid	PFHpA	NE	NE	1.6 U	1.7 U	**2.2**	**2.7**	**1.9**	**2.7**	1.5 U	1.6 U	1.7 U	1.6 U
Perfluorooctanoic acid	PFOA	4	4	**3.2**	1.7 U	**3.9**	**4.5**	**5.5**	**8.9**	1.5 U	**2.1**	**2.2**	1.6 U
Perfluorononanoic acid	PFNA	10	10	1.6 U	1.7 U	**2.7**	**3.1**	1.6 U	**14**	1.5 U	1.6 U	1.7 U	1.6 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	**1.9**	1.7 U	**5**	**5.1**	**6.5**	**7.5**	1.5 U	**3.3**	**3.3**	1.6 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE	1.6 U	1.7 U	**5.3**	**5.7**	**10**	**9.5**	1.5 U	1.6 U	1.7 U	1.6 U
Perfluorohexanesulfonic acid	PFHxS	10	10	1.6 U	**4.4**	**73**	**83**	**120**	**110**	1.5 U	**2.4**	**2.9**	1.6 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	1.6 U	1.7 U	**3.1**	**3.7**	**6**	**5.2**	1.5 U	1.6 U	1.7 U	1.6 U
Perfluorooctanesulfonic acid	PFOS	4	4	1.6 U	**13**	**160**	**170**	**290**	**98**	1.5 U	1.6 U	**1.8**	1.6 U
Calculated HI [2]													
Gen-X, PFBS, PFHxS, PFNA [3]		1 [4]		*N/A*	*N/A*	**7.6**	**8.6**	**12.0**	**12.4**	*N/A*	**0.2**	**0.3**	*N/A*

Notes/Qualifiers:

µg/L - microgram per liter
BMW - Baker Monitoring Well
GM - Geraghty & Miller
HI - Hazard Index
MSC - Medium-Specific Concentration
N/A - Not Available; all constituents are non-detect
NE - Not Established
ng/L - nanogram per liter
OB - Observation Boring
PADEP - Pennsylvania Department of Environmental Protection
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
PW - Pumping Well
SBMW - Saegertown Borough Monitoring Well
SBW - Saegertown Beverage Well
TDS - Total Dissolved Solids
U - Not Detected
W - Well

Bolded - Concentration is detected in the sample.
Shaded - Detected concentration exceeds the Residential MSC.
Boxed - Detected concentration exceeds the Nonresidential MSC

(1) - An additional 29 PFAS compounds were analyzed for, but not detected

(2) - If more than one of the identified compounds (Gen-X, PFBS, PFHxS, and PFNA) are detected at any concentration in a sample, a Hazard Index (HI) must be calculated using the equation below. HIs are calculated using detected values only:

$$HI = \left(\frac{C_{Gen-X}}{0.01}\right) + \left(\frac{C_{PFBS}}{2}\right) + \left(\frac{C_{PFNA}}{0.01}\right) + \left(\frac{C_{PFHxS}}{0.01}\right)$$

where:
C_{Gen-X} = concentration of Gen-X C_{PFNA} = concentration of PFNA
C_{PFBS} = concentration of PFBS C_{PFHxS} = concentration of PFHxS

concentrations are in µg/L

(3) - Gen-X was not detected in any of the samples

(4) - USEPA Hazard Index Maximum Contaminant Level (MCL)

TABLE 10

SUMMARY OF AVERAGE CALCULATED HAZARD INDEX
SAEGERTOWN PFAS SITE
SAEGERTOWN, BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		MCL	BMW-1		BMW-2		BMW-3		BMW-3 DUP		BMW-4		BMW-4 DUP		BMW-5		BMW-6	
Sample Date:			12/2/2024	3/31/2025	12/5/2024	4/2/2025	12/5/2024	4/2/2025	12/5/2024	4/2/2025	12/4/2024	3/31/2025	12/4/2024	3/31/2025	12/4/2024	4/1/2025	12/3/2024	3/31/2025
PFAS (ng/L)																		
Hexafluoropropylene oxide dimer acid	HFPO-DA		6.6 U	6.3 U	130 U	130 U	64 U	640 U	130 U	-	6.5 U	32 U	-	32 U	6.1 U	6 U	5.9 U	6.1 U
Perfluorobutanesulfonic acid	PFBS		1.6 U	1.6 U	32 U	32 U	16 U	160 U	32 U	-	**27**	**20**	-	**21**	**4.9**	**6.8**	**2.2**	**1.6**
Perfluorohexanesulfonic acid	PFHxS		1.6 U	1.6 U	**710**	**1,200**	**290**	**4,600**	**560**	-	**360**	**320**	-	**300**	**63**	**85**	**11**	**5.1**
Perfluorononanoic acid	PFNA		1.6 U	1.6 U	32 U	32 U	16 U	**260**	32 U	-	**14**	**22**	-	**20**	**20**	**19**	**2.8**	1.5 U
Average Calculated HI [(1)]																		
Gen-X, PFBS, PFHxS, PFNA [(2)]		1	*N/A*		*N/A*		**486.0**		*N/A*		**35.8**		**32.0**		**9.4**		**0.9**	

TABLE 10

SUMMARY OF AVERAGE CALCULATED HAZARD INDEX
SAEGERTOWN PFAS SITE
SAEGERTOWN, BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		MCL	BMW-7		BMW-8		BMW-9		BMW-10		GM-13S		GM-13D		GM-14S		GM-14D	
Sample Date:			12/3/2024	3/31/2025	12/3/2024	3/31/2025	12/3/2024	3/31/2025	12/3/2024	4/2/2025	12/6/2024	4/1/2025	12/6/2024	4/1/2025	12/5/2024	4/1/2025	12/5/2024	4/1/2025
PFAS (ng/L)																		
Hexafluoropropylene oxide dimer acid	HFPO-DA		5.9 U	6 U	6.2 U	6.6 U	5.9 U	5.9 U	6.6 U	6.5 U	6.4 U	6.1 U	6.1 U	5.9 U	6.4 U	6.7 U	6 U	6.3 U
Perfluorobutanesulfonic acid	PFBS		1.5 U	1.5 U	**5**	1.6 U	**11**	**18**	1.7 U	1.6 U	1.6 U	**1.5**	1.5 U	1.5 U	**3.7**	**10**	1.5 U	1.6 U
Perfluorohexanesulfonic acid	PFHxS		1.5 U	1.5 U	**5.2**	1.6 U	1.5 U	1.5 U	1.7 U	**5.5**	1.6 U	1.5 U	1.5 U	1.5 U	**3.3**	**9.9**	1.5 U	1.6 U
Perfluorononanoic acid	PFNA		1.5 U	1.5 U	**3.6**	1.6 U	1.5 U	1.5 U	1.7 U	1.6 U	1.6 U	1.5 U	1.5 U	1.5 U	1.6 U	1.7 U	1.5 U	1.6 U
Average Calculated HI [1]																		
Gen-X, PFBS, PFHxS, PFNA [2]		1	*N/A*		**0.9**		*N/A*		*N/A*		*N/A*		*N/A*		**0.7**		*N/A*	

TABLE 10

SUMMARY OF AVERAGE CALCULATED HAZARD INDEX
SAEGERTOWN PFAS SITE
SAEGERTOWN, BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		MCL	GM-15S		GM-15D		GM-23S		GM-23D		GM-24S		GM-24S DUP		GM-24D		OB-6-50	
Sample Date:			12/4/2024	4/1/2025	12/4/2024	4/1/2025	12/6/2024	4/1/2025	12/6/2024	4/1/2025	12/3/2024	4/1/2025	12/3/2024	4/1/2025	12/3/2024	4/1/2025	12/5/2024	4/2/2025
PFAS (ng/L)																		
Hexafluoropropylene oxide dimer acid	HFPO-DA		5.8 U	6.3 U	6.5 U	6 U	6.1 U	6.6 U	-	6.6 U	6.4 U	5.9 U	6.4 U	-	6.1 U	5.8 U	5.8 U	6.2 U
Perfluorobutanesulfonic acid	PFBS		**1.9**	1.6 U	1.6 U	1.5 U	1.5 U	1.6 U	-	1.7 U	1.6 U	1.5 U	1.6 U	-	1.5 U	1.5 U	**38**	**21**
Perfluorohexanesulfonic acid	PFHxS		1.4 U	1.6 U	1.6 U	1.5 U	1.5 U	1.6 U	-	1.7 U	**5.8**	**35**	**6.6**	-	**7**	**3.9**	**490**	**400**
Perfluorononanoic acid	PFNA		1.4 U	1.6 U	1.6 U	1.5 U	1.5 U	1.6 U	-	1.7 U	1.6 U	1.5 U	1.6 U	-	1.5 U	1.5 U	**22**	**20**
Average Calculated HI [1]																		
Gen-X, PFBS, PFHxS, PFNA [2]		1	*N/A*		*N/A*		*N/A*		*N/A*		*N/A*		*N/A*		*N/A*		**46.6**	

TABLE 10

SUMMARY OF AVERAGE CALCULATED HAZARD INDEX
SAEGERTOWN PFAS SITE
SAEGERTOWN, BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		MCL	OB-6-100		OB-7-50		OB-7-100		PW-1		PW-2		PW-6		PW-6 DUP	
Sample Date:			12/4/2024	4/1/2025	12/4/2024	4/2/2025	12/4/2024	4/2/2025	12/4/2024	4/3/2025	12/4/2024	4/3/2025	12/4/2024	4/3/2025	12/4/2024	4/3/2025
PFAS (ng/L)																
Hexafluoropropylene oxide dimer acid	HFPO-DA		5.8 U	6.5 U	6 U	6.1 U	5.7 U	6.4 U	6.6 U	6.2 U	6.4 U	6.6 U	6.5 U	6.4 U	-	6.7 U
Perfluorobutanesulfonic acid	PFBS		1.4 U	1.6 U	**19**	**13**	**4.5**	1.6 U	1.6 U	**1.9**	**2.2**	1.7 U	**5.3**	**5**	-	**5.1**
Perfluorohexanesulfonic acid	PFHxS		1.4 U	1.6 U	**380**	**280**	**130**	**25**	1.6 U	1.6 U	**15**	**4.4**	**74**	**73**	-	**83**
Perfluorononanoic acid	PFNA		1.4 U	1.6 U	**13**	**16**	**1.6**	1.6 U	1.6 U	1.6 U	**1.7**	1.7 U	**2.9**	**2.7**	-	**3.1**
Average Calculated HI [(1)]																
Gen-X, PFBS, PFHxS, PFNA [(2)]		1	*N/A*		**34.5**		**13.2**		*N/A*		**1.7**		**7.6**		**8.6**	

TABLE 10

SUMMARY OF AVERAGE CALCULATED HAZARD INDEX
SAEGERTOWN PFAS SITE
SAEGERTOWN, BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

Sample ID:		MCL	PW-7		PW-7 DUP		SBW		SBMW-1		W7S		W7S-DUP		W7D	
Sample Date:			12/4/2024	12/4/2024	12/4/2024	4/3/2025	12/4/2024	4/2/2025	12/4/2024	4/2/2025	12/6/2024	4/1/2025	12/6/2024	4/1/2025	12/6/2024	4/1/2025
PFAS (ng/L)																
Hexafluoropropylene oxide dimer acid	HFPO-DA		6.2 U	6.2 U	6.4 U	-	6.5 U	6.7 U	-	6 U	6 U	6.5 U	-	6.7 U	6.5 U	6.4 U
Perfluorobutanesulfonic acid	PFBS		**6**	**6**	**5.8**	-	**7**	**7.5**	-	1.5 U	**17**	**3.3**	-	**3.3**	1.6 U	1.6 U
Perfluorohexanesulfonic acid	PFHxS		**120**	**120**	**110**	-	**76**	**110**	-	1.5 U	**6.4**	**2.4**	-	**2.9**	1.6 U	1.6 U
Perfluorononanoic acid	PFNA		1.6 U	1.6 U	1.6 U	-	**7.4**	**14**	-	1.5 U	1.5 U	1.6 U	-	1.7 U	1.6 U	1.6 U
Average Calculated HI [1]																
Gen-X, PFBS, PFHxS, PFNA [2]		1	**12.0**		**11.0**		**10.4**		*N/A*		**0.4**		**0.3**		*N/A*	

Notes/Qualifiers

- - Not Sampled
µg/L - microgram per liter
HI - Hazard Index
MCL - Maximum Contaminant Level
N/A - Not Available
ng/L - nanogram per liter
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances

Bolded - Concentration is detected in the sample
Shaded - Detected Concentration exceeds the MCL

[1] In addition to meeting the individual MSC, if more than one of Gen-X, PFBS, PFHxS, and PFNA are detected at any concentration in a sample, a HI must be calculated using the equation below. The HI MSC is met in this case by maintaining a rolling average HI of less than one for the most recent four quarters of samples utilizing the equation:

$$HI = \left(\frac{C_{Gen-X}}{0.01}\right) + \left(\frac{C_{PFBS}}{2}\right) + \left(\frac{C_{PFNA}}{0.01}\right) + \left(\frac{C_{PFHxS}}{0.01}\right)$$

concentrations are in µg/L

where:

C_{Gen-X} = concentration of Gen-X
C_{PFBS} = concentration of PFBS
C_{PFNA} = concentration of PFNA
C_{PFHxS} = concentration of PFHxS

[2] - Gen-X was not detected in any of the samples

TABLE 11

SUMMARY OF QUALITY ASSURANCE/QUALITY CONTROL ANALYTE DETECTIONS
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

	Equipment Blank						Field Blank		
Sample ID:	EB-01	EB-02	EB-03	EB-04	EB-01-1224	EB-02-0425	FB-01	FB-1224	FB-0425
Lab Sample ID:	24J0749-12	24J0997-04	24J1556-06	24J2024-12	24L0567-06	25D0377-10	24J2024-13	24L0334-19	25D0377-04
Sample Date:	10/3/2024	10/4/2024	10/8/2024	10/10/2024	12/6/2024	4/3/2025	10/10/2024	12/4/2024	4/2/2025
PFAS (ng/L) [(1)]									
None Detected									

Notes/Qualifiers:

EB - Equipment Blank
FB - Field Blank
ng/L - nanogram per liter
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances

Bolded - Concentration was detected in the sample

(1) - Forty PFAS compounds were analyzed for, but not detected

TABLE 12

SUMMARY OF HISTORICAL DETECTED ANALYTICAL RESULTS - GROUNDWATER POTABLE WELLS
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

				PW-1 Historical Results				PW-1 Current Results		PW-2 Historical Results					PW-2 Current Results		PW-3 Historical Results			
Sample Quarter:		**PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)**	**PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)**	1Q 2024	2Q 2024	3Q 2024	4Q 2024	4Q 2024	1 2025	1Q 2024	2Q 2024	2Q 2024	3Q 2024	4Q 2024	4Q2024	1Q 2025	1Q 2024	2Q 2024	3Q 2024	4Q 2024
Sample ID:				EP-100	EP100	EP100-	EP100	PW-1	PW-1	EP-101	EP101	EP101 (Reanalysis)	EP101	EP101	PW-2	PW-2	EP-102	EP102	EP102	EP102
Well:				WELL 1	WELL 1	WELL 1	WELL 1	WELL 1	WELL 1	WELL 2	WELL2	WELL 2	WELL 2	WELL 2	WELL 2	WELL 2	WELL 3	WELL 3	WELL 3	WELL 3
Sample Date:				3/6/2024	4/2/2024	7/9/2024	10/1/2024	12/4/2024	4/3/2025	3/5/2024	4/2/2024	4/2/2024	7/9/2024	10/1/2024	12/4/2024	4/3/2025	3/5/2024	4/2/2024	7/9/2024	10/1/2024
Pump Status:				**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**
PFAS (ng/L) [1]																				
Perfluorobutanoic acid	PFBA	NE	NE	-	-	-	-	6.6 U	6.2 U	-	-	-	-	-	6.4 U	6.6 U	-	-	-	-
Perfluoropentanoic acid	PFPeA	NE	NE	-	-	-	-	3.3 U	**3.2**	-	-	-	-	-	3.2 U	3.3 U	-	-	-	-
Perfluorohexanoic acid	PFHxA	NE	NE	**2.1**	**2.2**	**1.7** I	**1.9**	**1.7**	**2.1**	**1.9**	**3.8**	**3.8**	**1.3** I	1.1 U	1.6 U	1.7 U	1.9 U	1.8 U	1.1 U	1.2 U
Perfluoroheptanoic acid	PFHpA	NE	NE	1.8 U	1.7 U	0.89 U	0.88 U	1.6 U	1.6 U	1.8 U	1.8 U	1.8 U	0.91 U	0.89 U	1.6 U	1.7 U	1.9 U	1.8 U	0.88 U	0.94 U
Perfluorooctanoic acid	PFOA	4	4	**2.6**	**2.6**	**3.1**	**2.6**	**2.7**	**3.2**	1.8 U	**2.9**	**3.1**	**1.7** I	**1.1** I	**2.1**	1.7 U	1.9 U	1.8 U	0.77 U	0.81 U
Perfluorononanoic acid	PFNA	10	10	1.8 U	1.7 U	1.7 U	1.7 U	1.6 U	1.6 U	1.8 U	**2.4**	**3**	1.8 U	1.7 U	**1.7**	1.7 U	1.9 U	1.8 U	1.7 U	1.8 U
Perfluoroundecanoic acid	PFUnA	NE	NE	1.8 U	1.7 U	1.7 U	1.7 U	1.6 U	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.6 U	1.7 U	1.9 U	1.8 U	1.7 U	1.8 U
Perfluorotetradecanoic acid	PFTeDA	NE	NE	1.8 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	1.6 U	1.7 U	1.9 U	1.8 U	1.6 U	1.8 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1.8 U	1.7 U	**1.6** I	**1.8**	1.6 U	**1.9**	1.8 U	**3**	**3.1**	**1.6** I	**1.2** I	**2.2**	1.7 U	1.9 U	1.8 U	0.58 U	0.62 U
Perfluoropentanesulfonic acid	PFPeS	NE	NE					1.6 U	1.6 U						1.6 U	1.7 U				
Perfluorohexanesulfonic acid	PFHxS	10	10	**3.4**	**4.9**	**2.7**	**1.7**	1.6 U	1.6 U	**5.5**	**43**	**30**	**12**	**9.7**	**15**	**4.4**	1.9 U	1.8 U	0.64 U	0.68 U
Perfluoroheptanesulfonic acid	PFHpS	NE	NE					1.6 U	1.6 U						1.6 U	1.7 U				
Perfluorooctanesulfonic acid	PFOS	4	4	1.8 U	**1.9**	1.1 U	1.1 U	1.6 U	1.6 U	**7.2**	**77**	**64**	**18**	**12**	**19**	**13**	1.9 U	1.8 U	1.1 U	1.1 U
Calculated HI [2]																				
Gen-X, PFBS, PFHxS, PFNA [3]		1 [4]		*N/A*	*N/A*	**0.3**	**0.2**	*N/A*	*N/A*	*N/A*	**4.5**	**3.3**	**1.2**	**1.0**	**1.7**	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

TABLE 12

SUMMARY OF HISTORICAL DETECTED ANALYTICAL RESULTS - GROUNDWATER POTABLE WELLS
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

				PW-4 Historical Results					PW-5 Historical Results					PW-6/7 Historical Results							
Sample Quarter:		**PADEP Residential Groundwater MSCs**	**PADEP Nonresidential Groundwater MSCs**	3Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024	3Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024	4Q 2020	4Q 2020	4Q 2020	1Q2021	2Q 2021	3Q 2021	4Q 2021	1Q 2022
Sample ID:				103	EP-103	EP103	EP103	EP103	104	EP-104	EP104	EP104	EP104	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105
Well:				WELL 4	WELL 4	WELL4	WELL4	WELL 4	WELL 5	WELL 5	WELL 5	WELL 5	WELL 5	WELL 6	WELL 6	WELL 7	WELL 6	WELL 6	WELL 6	WELL 6	WELL 6
Sample Date:		(Used Aquifer; TDS≤2500)	(Used Aquifer; TDS≤2500)	7/9/2023	3/5/2024	4/2/2024	7/9/2024	10/1/2024	7/6/2023	3/5/2024	4/2/2024	7/9/2024	10/1/2024	10/21/2020	11/19/2020	11/19/2020	1/19/2021	5/18/2021	7/12/2021	10/4/2021	1/11/2022
Pump Status:				*PUMP OFF*	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	*PUMP OFF*	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	*PUMP OFF*	*PUMP OFF*	**PUMP ON**	**PUMP ON**	**PUMP ON**	*PUMP OFF*	**PUMP ON**
PFAS (ng/L) [1]																					
Perfluorobutanoic acid	PFBA	NE	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid	PFPeA	NE	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid	PFHxA	NE	NE	1.9 U	1.8 U	1.7 U	1.1 U	1.1 U	1.7 U	1.8 U	1.8 U	1.1 U	1.2 U	**8.6**	**3.8**	**8**	**5.1**	**2.3**	**11**	**4.8**	**2.9**
Perfluoroheptanoic acid	PFHpA	NE	NE	1.9 U	1.8 U	1.7 U	0.89 U	0.88 U	1.7 U	1.8 U	1.8 U	0.9 U	0.91 U	ND	ND	**3.1**	ND	ND	**3.8**	ND	ND
Perfluorooctanoic acid	PFOA	4	4	1.9 U	1.8 U	1.7 U	0.77 U	0.76 U	1.7 U	1.8 U	1.8 U	0.78 U	0.79 U	**5.5**	ND	**4.8**	ND	ND	**6.9**	**2.2**	**2**
Perfluorononanoic acid	PFNA	10	10	1.9 U	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.8 U	ND	ND	ND	ND	ND	**2.4**	ND	ND
Perfluoroundecanoic acid	PFUnA	NE	NE	1.9 U	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.8 U	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid	PFTeDA	NE	NE	1.9 U	1.8 U	1.7 U	1.7 U	1.6 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U	-	-	-	-	-	-	-	-
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	1.9 U	1.8 U	1.7 U	0.59 U	0.58 U	1.7 U	1.8 U	1.8 U	0.59 U	0.6 U	**9.2**	**2**	**6.9**	**2.3**	ND	**11**	**3**	**2.3**
Perfluoropentanesulfonic acid	PFPeS	NE	NE																		
Perfluorohexanesulfonic acid	PFHxS	10	10	1.9 U	1.8 U	1.7 U	0.65 U	0.64 U	1.7 U	1.8 U	1.8 U	0.65 U	0.67 U	**79.4**	**20**	**85**	**28**	**7.5**	**120**	**64.1**	**33**
Perfluoroheptanesulfonic acid	PFHpS	NE	NE																		
Perfluorooctanesulfonic acid	PFOS	4	4	1.9 U	1.8 U	1.7 U	1.1 U	1.1 U	1.7 U	1.8 U	1.8 U	1.1 U	1.1 U	**187.1**	**90**	**170**	**12**	**35**	**180**	**61.6**	**61**
Calculated HI [2]																					
Gen-X, PFBS, PFHxS, PFNA [3]			1 [4]	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	**7.9**	**2.0**	**8.5**	**2.8**	*N/A*	**12.2**	**6.4**	**3.3**

TABLE 12

SUMMARY OF HISTORICAL DETECTED ANALYTICAL RESULTS - GROUNDWATER POTABLE WELLS
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

				PW-6/7 Historical Results										
Sample Quarter:		**PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)**	**PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)**	2Q 2022	3Q 2022	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024
Sample ID:				EP-105	EP-105	EP-105	EP105	EP105	105	EP105	EP-105	EP105	EP105	EP105
Well:				WELL 6	WELL 6	WELL 6	WELL 6	WELL 6	WELL 6/7	WELL 6/7	WELL 6/7	WELL 6/7	WELL 6/7	WELL 6/7
Sample Date:				4/6/2022	7/5/2022	10/4/2022	2/7/2023	4/4/2023	7/6/2023	11/7/2023	3/5/2024	4/2/2024	7/9/2024	10/1/2024
Pump Status:				**PUMP ON**	**PUMP ON**	*PUMP OFF*	*PUMP OFF*	*PUMP OFF*	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**	**PUMP ON**
									PUMP OFF	*PUMP OFF*	**PUMP ON**	*PUMP OFF*	*PUMP OFF*	*PUMP OFF*
PFAS (ng/L) [1]														
Perfluorobutanoic acid	PFBA	NE	NE	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid	PFPeA	NE	NE	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid	PFHxA	NE	NE	**2.7**	**3.3**	**2.8**	**4.5**	**5.6**	**3.2**	**3**	**3**	**3**	**4.7**	**8.9**
Perfluoroheptanoic acid	PFHpA	NE	NE	ND	ND	ND	**1.8** I	**2.4**	1.8 U	**1.6** I	1.8 U	1.8 U	**1.8**	**2.9**
Perfluorooctanoic acid	PFOA	4	4	ND	ND	ND	**0.94** IJ	**1.1** J	1.8 U	**1.1** I	1.8 U	1.8 U	**2.5**	**5.5**
Perfluorononanoic acid	PFNA	10	10	ND	ND	ND	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	**3**
Perfluoroundecanoic acid	PFUnA	NE	NE	-	-	-	**1.8**	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U
Perfluorotetradecanoic acid	PFTeDA	NE	NE	-	-	-	**1.8**	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	ND	ND	**4.1**	**0.96** IJ	**0.84** J	1.8 U	0.6 U	1.8 U	1.8 U	**4.3**	**7.6**
Perfluoropentanesulfonic acid	PFPeS	NE	NE											
Perfluorohexanesulfonic acid	PFHxS	10	10	**8.9**	ND	**16.4**	**4.3**	**0.79** J	**15**	**2.3**	**2**	1.8 U	**40**	**91**
Perfluoroheptanesulfonic acid	PFHpS	NE	NE											
Perfluorooctanesulfonic acid	PFOS	4	4	**22.4**	**7.5**	**4.6**	**12**	**4.1**	**27**	**7.3**	**5.8**	**4.6**	**22**	**160**
Calculated HI [2]														
Gen-X, PFBS, PFHxS, PFNA [3]			1 [4]	*N/A*	*N/A*	**1.6**	**0.4**	**0.1**	*N/A*	*N/A*	*N/A*	*N/A*	**4.0**	**9.4**

TABLE 12

SUMMARY OF HISTORICAL DETECTED ANALYTICAL RESULTS - GROUNDWATER POTABLE WELLS
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH, CRAWFORD COUNTY, PENNSYLVANIA

				PW-6/7 Current Results						SBW Historical Results				SBW Current Results	
Sample Quarter:		**PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)**	**PADEP Nonresidential Groundwater MSCs (Used Aquifer; TDS≤2500)**	4Q 2024	4Q 2024	4Q 2024	1Q 2025	1Q 2025	1Q 2025	2Q 2021	2Q 2022	3Q 2022	1Q 2023	4Q 2024	1Q 2025
Sample ID:				PW-6	PW-7	PW-7 DUP	PW-6	PW-6 DUP	PW-7	SBW	SBW	SBW	SBW	SBW	SBW
Well:				WELL 6	WELL 7	WELL 7	WELL 6	WELL 6	WELL 7	Beverage #1	Beverage #1	Beverage #1	Beverage #1	Beverage #1	Beverage #1
Sample Date:				12/4/2024	12/4/2024	12/4/2024	4/3/2025	4/3/2025	4/3/2025	6/14/2021	7/12/2022	10/4/2022	1/10/2023	12/4/2024	4/2/2025
Pump Status:				**PUMP ON**	*PUMP OFF*	*PUMP OFF*	**PUMP ON**	**PUMP ON**	**PUMP ON**	N/A	N/A	N/A	N/A	N/A	N/A
PFAS (ng/L) [1]															
Perfluorobutanoic acid	PFBA	NE	NE	6.5 U	6.2 U	6.4 U	6.4 U	6.7 U	6.3 U	6.3 U	6.3 U	**3** J	**2.6** J	6.5 U	6.7 U
Perfluoropentanoic acid	PFPeA	NE	NE	**5.3**	3.1 U	3.2 U	**5.4**	**5.5**	3.2 U	-	-	**4.9**	**4.2**	**4.3**	**5.8**
Perfluorohexanoic acid	PFHxA	NE	NE	**6.1**	**4.4**	**4.4**	**6.4**	**6.9**	**4.8**	**2.3**	**35.7**	**9.1**	**8.2**	**8.1**	**9.9**
Perfluoroheptanoic acid	PFHpA	NE	NE	**2**	**1.9**	**1.8**	**2.2**	**2.7**	**1.9**	**0.996**	**8.2**	**2.8**	**2.5**	**2**	**2.7**
Perfluorooctanoic acid	PFOA	4	4	**4.7**	**6.3**	**6.1**	**3.9**	**4.5**	**5.5**	**3.1**	**18.8**	**5.6**	**5.2**	**6.9**	**8.9**
Perfluorononanoic acid	PFNA	10	10	**2.9**	1.6 U	1.6 U	**2.7**	**3.1**	1.6 U	**2.5**	**16.5**	**6.7**	**5.3**	**7.4**	**14**
Perfluoroundecanoic acid	PFUnA	NE	NE	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U	1.6 U	-	-	0.45 U	0.47 U	1.6 U	1.7 U
Perfluorotetradecanoic acid	PFTeDA	NE	NE	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U	1.6 U	-	-	0.45 U	0.47 U	1.6 U	1.7 U
Perfluorobutanesulfonic acid	PFBS	2,000	2,000	**5.3**	**6**	**5.8**	**5**	**5.1**	**6.5**	**1.1**	**34**	**9**	**8.3**	**7**	**7.5**
Perfluoropentanesulfonic acid	PFPeS	NE	NE	**6.2**	**12**	**10**	**5.3**	**5.7**	**10**	-	-	**9.5**	**8.8**	**7.6**	**9.5**
Perfluorohexanesulfonic acid	PFHxS	10	10	**74**	**120**	**110**	**73**	**83**	**120**	ND	**240**	**65**	**90**	**76**	**110**
Perfluoroheptanesulfonic acid	PFHpS	NE	NE	**3.2**	**5.2**	**4.8**	**3.1**	**3.7**	**6**	-	-	**3.2**	**3.4**	**3.9**	**5.2**
Perfluorooctanesulfonic acid	PFOS	4	4	**160**	**250**	**240**	**160**	**170**	**290**	**0.664**	**40.3**	**16** I	**34** I	**72**	**98**
Calculated HI [2]															
Gen-X, PFBS, PFHxS, PFNA [3]			1 [4]	**7.7**	**12.0**	**11.0**	**7.6**	**8.6**	**12.0**	**0.3**	**25.7**	**7.2**	**9.5**	**8.3**	**12.4**

Notes:

All current and historical data has been compared to the most current criteria for comparison purposes only.

µg/L - microgram per liter
HI - Hazard Index
I - Estimated concentrations above the adjusted method detection limit and below the adjusted reporting limit.
J - Estimated
MSC - Medium-Specific Concentration
N/A - Not Applicable
NE - Not Established
ng/L - nanogram per liter
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
SBW - Saegertown Beverage Well
Q - Quarter
U - Non-detect

[1] - An additional 27 PFAS compounds were analyzed for, but not detected.

[2] - If more than one of the identified compounds (Gen-X, PFBS, PFHxS, and PFNA) are detected at any concentration in a sample, a Hazard Index (HI) must be calculated using the equation below. HIs are calculated using detected values only:

$$HI = \left(\frac{C_{Gen-X}}{0.01}\right) + \left(\frac{C_{PFBS}}{2}\right) + \left(\frac{C_{PFNA}}{0.01}\right) + \left(\frac{C_{PFHxS}}{0.01}\right)$$ ***concentrations are in µg/L***

where:

C_{Gen-X} = concentration of Gen-X
C_{PFBS} = concentration of PFBS
C_{PFNA} = concentration of PFNA
C_{PFHxS} = concentration of PFHxS

[3] - Gen-X was not detected in any of the samples

[4] - USEPA Hazard Index Maximum Contaminant Level (MCL)

ATTACHMENT A

Soil Boring Logs

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-1**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 15.0	Cloudy, 40s	wet at 8.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0			SB-1-1 plus MS/MSD	0 - 1'	0.0	**0.0 - 1.0** TOPSOIL, grass, dark brown, soft, moist	
2		DM-1	4.7 94%			0.0	**1.0 - 3.0** Silty CLAY, orangish light brown, medium stiff, moist	
3	3.0					0.0		
4						0.0	**3.0 - 8.0** SILT, fine SAND and fine rounded GRAVEL, little rock frags, brown, medium dense, moist to wet	
5	5.0					0.0		
6						0.0		
7			3.0			0.0		
8	8.0	DM-2	60%	SB-1-8	7 -8'	0.0	wet at 8.0'	
9						0.0	**8.0 - 15.0** SILT, coarse SAND and fine rounded GRAVEL, trace fine sand and cobbles, medium dense to loose, wet	
10	10.0					0.0		
							Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-1 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: SB-1

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	DM-3	2.0 40%		0.0	**8.0 - 15.0** SILT, coarse SAND and fine rounded GRAVEL, trace fine sand and cobbles, medium dense to loose, wet	
12				0.0		
13				0.0		
14				0.0		
15 15.0				0.0		
16					End of Boring at 15.0'	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-1 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-2**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 8.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
	0.5			SB-2-1	0 - 1'		**0.0 - 0.5** TOPSOIL, grass, dark brown, soft, moist	
1						0.0	**0.5 - 3.5** Clayey SILT, some fine rnd/ang gravel, trace fine sand and rock frags, orangish-brown,	
2			3.4			0.0	medium stiff, moist	
		DM-1	68%					
3						0.0		
	3.5							
4	4.0					0.0	**3.5 - 4.0** SILT and very fine SAND, orangish-brown, soft, moist	
5	5.0					0.0	**4.0 - 8.0** SILT and F/M rounded GRAVEL,	
6						0.0	some fine sand, trace rock frags, brown, medium dense, moist to wet	
7			3.0			0.0		
		DM-2	60%	SB-2-8	7 -8'			
8	8.0					0.0	wet at 8.0'	
9						0.0	**8.0 - 10.0** SILT, coarse SAND and F/M rounded GRAVEL, trace fine sand and cobbles,	
10	10.0					0.0	medium dense to loose, wet	
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-2 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-3**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 9.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	4.5 90%	SB-3-1	0 - 1'	0.0	**0.0 - 0.5** TOPSOIL, grass, dark brown, soft, moist	
2						0.0	**0.5 - 3.0** Clayey SILT, some fine rnd/ang gravel, trace fine sand, orangish-brown, medium stiff, moist	
3	3.0					0.0		
4						0.5	**3.0 - 6.0** CLAY, little angular fine gravel, trace slag, dk gray and brown, medium stiff, moist (naphtha odor)	
5	5.0			SB-3-5	4 - 5'	6.1		
6	6.0	DM-2	3.4 68%			0.5		
7	6.5					0.0	**6.0 - 6.5** SILT and very fine SAND, orangish-brown, soft, moist	
8						0.0	**6.5 - 10.0** SILT and F/M rounded GRAVEL, some fine to coarse sand, little rock frags, brown, medium dense to loose, moist to wet	
9				SB-3-9	8 - 9'	0.0		
10	10.0					0.0	wet at 9.0' Lt gray cobble at 10.0'	
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-3 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-4**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 15.0	Cloudy, 40s	wet at 7.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0	DM-1	4.5 90%	SB-4-1	0 - 1'	0.0	**0.0 - 1.0** TOPSOIL, grass, dark brown, soft, moist	
2						0.0	**1.0 - 6.0** Silty CLAY, orangish light brown, medium stiff, moist	
3						0.0		
4						0.0		
5	5.0					0.0		
6	6.0	DM-2	2.8 56%			0.0		
7				SB-4-7	6 - 7'	0.0	**6.0 - 9.5** SILT and F/M rounded GRAVEL, some fine sand, trace rock frags, brown, medium dense to loose, moist to wet	
8						0.0	wet at 7.0'	
9						0.0		
10	9.5					0.0	Lt gray cobble at 9.5'	
							Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-4 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: SB-4

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	DM-3	3.0 60%		0.0	**9.5 - 15.0** SILT, coarse SAND and F/M rounded GRAVEL, little fine sand, brown, medium dense, wet	
12				0.0		
13				0.0		
14				0.0		
15				0.0		
15.0					End of Boring at 15.0'	
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-4 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-5**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 7.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5			SB-5-1 DUP	0 - 1'	0.0	**0.0 - 0.5** TOPSOIL, grass, dark brown, soft, moist	
2		DM-1	4.5 90%			0.0	**0.5 - 4.5** Silty CLAY, orangish-lt brown, medium stiff, soft to moist	
3						0.0		
4						0.5		
5	4.5 5.0					6.1	**4.5 - 5.0** Fine SAND, some fine rounded gravel, brown with lenses of dk brown/black fine sand, medium dense, moist	
6						0.5		
7		DM-2	2.5 50%	SB-5-7	6 - 7'	0.0	**5.0 - 10.0** SILT and F/M rounded GRAVEL, some fine sand, trace coarse sand and rock frags, brown, medium dense, moist to wet	
8						0.0		
9						0.0	wet at 7.0'	
10	10.0					0.0		
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-5 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-6**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/10/24	0.0 - 25.0	Sunny, 50s	20.0
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0			SB-6-1 0 - 1'	0.0	**0.0 - 1.0** TOPSOIL, grass/roots, dk brown, soft, moist	
2			5.0		0.0	**1.0 - 4.5** Silty CLAY, some f/m gravel, trace rock frags and fine sand, orangish-brown, medium stiff, moist	
3		DM-1	100%		0.0		
4	4.5				0.0		
5	5.0				0.0	**4.5 - 7.0** CLAY, little fine angular gravel, dk gray/brown, medium stiff, moist (slight sulfur/slaggy odor)	
6					0.0		
7	7.0		4.5	SB-6-7 0 - 1' plus duplicate	0.0		
8		DM-2	90%		0.0	**7.0 - 16.0** SILT, fine SAND, and f/m rounded GRAVEL, little coarse sand, trace cobbles, brown, medium dense, moist	
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-6 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-6**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	DM-3	3.8 76%		0.0	**7.0 - 16.0** SILT, fine SAND, and f/m rounded GRAVEL, little coarse sand, trace cobbles, brown, medium dense, moist	
12				0.0		
13				0.0		
14				0.0		
15				0.0		
16	DM-4	3.8 76%		0.0		
17				0.0	**16.0 - 19.5** Fine SAND, some f/m rounded gravel, lt brown and brown, medium dense, moist	
18				0.0		
19				0.0		
20				0.0	**19.5 - 21.0** SILT, coarse SAND and f/m rounded GRAVEL, trace fine sand, medium dense, moist to wet wet at 21.0'	
21	DM-5	4.5 90%		0.0	**21.0 - 22.0** Clayey SILT and fine SAND, little medium rounded gravel, brown, soft, wet	
22				0.0	**22.0 - 23.0** Coarse SAND and fine rounded GRAVEL, trace silt, brown, medium dense, wet	
23				0.0	**23.0 - 25.0** SILT, fine SAND, and f/m rounded GRAVEL, trace coarse sand, yellow-brown, medium dense, wet	
24				0.0		
25				0.0	End of Boring at 25.0'	
26				0.0		
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-6 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-7**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/10/24	0.0 - 25.0	Sunny, 50s	18.8
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0			SB-7-1 0 - 1'	0.0	**0.0 - 1.0** TOPSOIL, grass/roots, trace fine gravel, and concrete, dk brown, medium stiff, moist	
2			4.0		0.0	**1.0 - 2.5** Silty CLAY, orangish-brown, medium stiff, moist	
	2.5	DM-1	80%				
3					0.0	**2.5 - 17.0** Silty CLAY, fine SAND, and f/m rounded GRAVEL, some rock frags, little coarse sand, trace cobbles, brown, medium dense, moist with slightly wet areas	
4					0.0		
5	5.0				0.0		
6					0.0		
7			3.0		0.0		
		DM-2	60%				
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-7 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-7**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**2.5 - 17.0** Silty CLAY, fine SAND, and f/m rounded GRAVEL, some rock frags, little coarse sand, trace cobbles, brown, medium dense, moist with slightly wet areas	
12		2.6		0.0		
13	DM-3	52%		0.0		
14				0.0		
15	15.0			0.0		
16				0.0		
17	17.0	4.5		0.0		
18	18.0	90%	SB-7-17 17 - 18'	0.0	**17.0 - 18.0** Fine to coarse SAND, little fine GRAVEL, (poorly sorted), lt brown, medium dense, moist	
19	19.0	DM-4		0.0	**18.0 - 19.0** Fine SAND, lt brown/brown, medium dense, moist to wet wet at 19.0'	
20	20.0			0.0	**19.0 - 23.0** SILT, coarse SAND, and f/m rounded GRAVEL, trace fine sand, yellowish-brown, medium dense tot loose, wet	
21				0.0		
22		2.5		0.0		
23	23.0	DM-5 50%		0.0		
24	24.0			0.0	**23.0 - 24.0** Fine SAND, brown, medium dense, wet	
25	25.0			0.0	**24.0 - 25.0** Fine rounded GRAVEL, trace fine sand, loose, wet	
26				0.0	End of Boring at 25.0'	
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-7 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-8**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 9.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	4.8 96%	SB-8-1	0 - 1'	0.0	**0.0 - 0.5** TOPSOIL, grass, dark brown, soft, moist	
2						0.0	**0.5 - 4.5** Silty CLAY, trace rock frags, orangish-lt brown, medium stiff, moist	
3						0.0		
4						0.5		
5	4.5 5.0					6.1	**4.5 - 8.0** SILT and f/m rounded GRAVEL, some fine sand, trace coarse sand and rock frags, medium dense, moist	
6		DM-2	3.5 70%			0.5		
7						0.0		
8	8.0					0.0		
9				SB-8-9	8 - 9'	0.0	**8.0 - 10.0** SILT and f/m rounded GRAVEL, some fine sand, and coarse sand, little fine sand, brown, medium dense, moist to wet wet at 9.0'	
10	10.0					0.0		
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-8 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-9**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 20.0	Cloudy, 50s	18.5
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	4.0 80%	SB-5-1 0 - 1'	0.0	**0.0 - 0.5** TOPSOIL, grass/roots, brown, soft, moist	
2					0.0	**0.5 - 3.0** Silty CLAY, trace fine gravel and rock frags, orangish-brown, medium stiff, moist	
3	3.0				0.0		
4					0.0	**3.0 - 5.5** Fine SAND, some f/m rounded gravel and silt, trace slag, brown, medium dense, wet wet at 3.0'	
5	5.0				0.0		
6	5.5	DM-2	3.0 60%		0.0	**5.5 - 17.5** SILT, fine to coarse SAND, and f/m GRAVEL, a few cobbles, brown, medium dense to loose, wet	
7				SB-5-7 6 - 7'	0.0		
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-9 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-9**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**5.5 - 17.5** SILT, fine to coarse SAND, and f/m GRAVEL, a few cobbles, brown, medium dense to loose, wet	
12		3.3		0.0		
13	DM-3	66%		0.0		
14				0.0		
15 15.0				0.0		
16				0.0		
17		4.5		0.0		
18 17.5	DM-4	90%		0.0	**17.5 - 20.0** f/m GRAVEL, some silt, trace fine to coarse sand, medium dense,	
19				0.0		
20 20.0				0.0		
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-9 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-10**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/2/24	0.0 - 25.0	Sunny, 60s	20.7
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0			SB-10-1 0 - 1'	0.0	**0.0 - 1.0** GRAVEL and TOPSOIL, dk brown, loose to medium stiff, dry	
2		DM-1	4.2 84%		0.0	**1.0 - 6.5** Silty CLAY, orangish-brown, stiff, dry	
3					0.0		
4					0.0		
5	5.0				0.0		
6					0.0		
	6.5						
7		DM-2	3.8 76%		0.0	**6.5 - 8.0** Silty CLAY, little f/m gravel, trace fine sand, brown, medium stiff, moist	
8	8.0				0.0		
9					0.0	**8.0 - 14.0** Fine SAND, some f/m rounded gravel, orangish-brown, medium dense, moist	
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-10 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-10**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						0.0	**8.0 - 14.0** Fine SAND, some f/m rounded gravel, orangish-brown, medium dense, moist	
12		DM-3	3.5 70%			0.0		
13						0.0		
14	14.0					0.0		
15	15.0					0.0	**14.0 - 19.0** SILT and f/m rounded GRAVEL, some rock frags, brown to gray, loose to medium stiff, moist to wet	
16						0.0		
17		DM-4	3.0 60%			0.0		
18						0.0		
19	19.0					0.0	wet at 19.0'	
20	20.0			SB-10-19 Dup	0 - 19'	0.0	**19.0 - 25.0** SILT and f/m rounded/angular GRAVEL, trace fine sand, gray, loose to medium stiff, wet	
21						0.0		
22		DM-5	2.0 40%			0.0		
23						0.0		
24						0.0		
25	25.0					0.0		
26							End of Boring at 25.0'	
27								
28								
29								
30								

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-10 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-11**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/2/24	0.0 - 25.0	Sunny, 60s	19.7
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0			SB-11-1 0 - 1'	0.0	**0.0 - 1.0** GRAVEL and ASPHALT, black/gray, loose, moist	
2	2.0		3.0		0.0	**1.0 - 2.0** TOPSOIL, black, medium stiff, moist	
3		DM-1	60%		0.0	**2.0 - 9.0** Fine SAND, some f/m rounded gravel, trace silt, orangish-brown, medium dense, moist	
4					0.0		
5	5.0				0.0		
6					0.0		
7			2.8		0.0		
8		DM-2	56%		0.0		
9	9.0				0.0		
10	10.0				0.0	**9.0 - 18.0** SILT and f/m GRAVEL, some rock frags, brown, medium dense, moist	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-11 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-11**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						0.0	**9.0 - 18.0** SILT and f/m GRAVEL, some rock frags, brown, medium dense, moist	
12			2.4			0.0		
		DM-3	48%					
13						0.0		
14						0.0		
15	15.0					0.0		
16						0.0		
17			4.0			0.0		
		DM-4	80%					
18	18.0					0.0		
19						0.0	**18.0 - 22.0** SILT and f/m rounded GRAVEL, trace fine sand, gray, medium dense, moist to wet	
20	20.0					0.0		
21						0.0		
				SB-11-22	0 - 22'			
22	22.0		4.0			0.0	wet at 22.0'	
		DM-5	80%					
23						0.0	**22.0 - 25.0** Fine SAND, some f/m rounded/angular gravel, brown, medium dense, wet	
24						0.0		
25	25.0					0.0		
26							End of Boring at 25.0'	
27								
28								
29								
30								

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-11 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-12**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 2.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	3.2 64%	SB-12-1	0 - 1'	0.0	**0.0 - 0.5** TOPSOIL, grass, dark brown, soft, moist	
				SB-12-2	1 - 2'		**0.5 - 2.0** Silty CLAY, trace fine gravel, orangish-brown, medium stiff, moist to wet	
2	2.0					0.0		
	2.5						**2.0 - 2.5** Fine SAND, orangish-brown, soft wet	
3						0.0		
4						0.0	**2.5 - 5.0** SILT, fine SAND and f/m GRAVEL, brown, medium dense, wet	
	4.5						Dk brown fine sand lense at 5.0'	
5	5.0					0.0		
6		DM-2	3.0 60%			0.0	**5.0 - 9.5** SILT, fine SAND to coarse SAND, and f/m rounded GRAVEL, brown, medium dense, wet	
7						0.0	Dk brown fine sand lense at 9.0'	
8						0.0		
9						0.0		
10	9.5 10.0					0.0	**9.5 - 10.0** Fine SAND, some fine rounded gravel, trace cobbles, med. dense, wet	
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-12 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB-13**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Sampler	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/9/24	0.0 - 10.0	Sunny, 50s	wet at 7.0'
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

PID Background = 0.0 ppm

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth		PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0	DM-1	3.5 70%	SB-13-1	0 - 1'	0.0	**0.0 - 1.0** TOPSOIL, grass, trace rock frags, brown, soft to medium stiff, moist	
2	2.0					0.0	**1.0 - 2.0** Silty CLAY, some f/m rounded gravel, trace f sand and rock frags, brown, med. stiff, moist	
3						0.0	**2.0 - 6.0** Fine SAND, some f/m rounded gravel, trace silt, orangish-brown, medium dense, moist	
4						0.0		
5	5.0					0.0		
6	6.0	DM-2	3.0 60%			0.0		
7				SB-13-7	6 - 7'	0.0	**6.0 - 10.0** SILT, fine to coarse SAND, and f/m rounded GRAVEL, brown, medium dense, moist to wet	
8						0.0	wet at 7.0'	
9						0.0		
10	10.0					0.0		
							End of Boring at 10.0'	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB-13 SHEET 1 OF 1

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-14**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/4/24	0.0 - 20.0	Sunny, 70s	12.3
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	4.0 80%	SB-11-1 0 - 1'	0.0	**0.0 - 0.5** Topsoil, roots, dk brown, soft, moist	
2					0.0	**0.5 - 2.5** Clayey SILT, trace fine sand, orange, medium stiff, moist	
3	2.5				0.0		
4					0.0		
5	5.0				0.0		
6		DM-2	2.5 50%		0.0	Same with trace medium rounded gravel to 8.5'	
7					0.0		
8					0.0		
9	8.5				0.0	wet at 8.5' **8.5 - 10.0** Fine SAND and f/m rounded GRAVEL, trace silt, orangish-brown, medium dense, wet	
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-14 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-14**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	DM-3	1.2 24%		0.0	**10.0 - 15.0** Possibly same as above. Hard to tell due to poor recovery. Sample liner was wet.	
12				0.0	(Fine SAND and f/m GRAVEL)	
13				0.0		
14				0.0		
15	15.0			0.0		
16	DM-4	NR 0.0 0%		0.0	**15.0 - 20.0** Possibly same as above. Hard to tell due to NO RECOVERY. Sample liner was wet.	
17				0.0	(Fine SAND and f/m GRAVEL)	
18				0.0		
19				0.0		
20	20.0			0.0		
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-14 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-18**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/8/24	0.0 - 25.0	Sunny, 40s	20.5
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	3.0 60%	SB-18-1 0 - 1'	0.0	**0.0 - 0.5** Topsoil, roots, dk brown, soft, moist	
						0.5 - 1.5 Clayey SILT, little rounded gravel, trace fine sand, brown, medium stiff, moist	
2	1.5				0.0	**1.5 - 5.0** SILT and f/m rounded GRAVEL, brown, medium dense, moist	
3					0.0		
4					0.0		
5	5.0				0.0		
6		DM-2	1.8 36%		0.0	**5.0 - 9.0** Possibly same as above. Hard to tell due to poor recovery.	
7					0.0		
8					0.0		
9	9.0				0.0		
10	10.0				0.0	**9.0 - 11.0** Same as above; more fine sand, wet wet at 9.0'	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-18 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **SB/GWG-18**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**9.0 - 11.0** Same as above; more fine sand, wet	
11.0						
12	DM-3	2.3 46%		0.0	**11.0 - 16.0** Fine SAND, lt brown to brown medium dense, moist	
13				0.0		
14				0.0		
15				0.0		
15.0						
16				0.0		
16.0						
17	DM-4	3.0 60%		0.0	**16.0 - 20.0** Fine SAND, little fine rounded gravel, trace silt, brown, medium dense, moist	
18				0.0		
19				0.0		
20			SB-18-20 plus MS/MSD 19-20'	0.0		
20.0						
21				0.0	**20.0 - 25.0** Fine SAND and fine rounded GRAVEL, little medium rounded gravel, trace silt, brown, medium dense, wet	
22	DM-5	2.5 50%		0.0		
23				0.0	wet at 20.0'	
24				0.0		
25				0.0		
25.0						
26					End of Boring at 25.0'	
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: SB/GWG-18 SHEET 2 OF 2

OBG Part of Ramboll | Michael Baker INTERNATIONAL

OBG|Baker Environmental Solutions Joint Venture

ATTACHMENT B

Laboratory Analytical Reports
Soil and Groundwater Grab Samples

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 21, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189432
Laboratory Work Order Number: 24J0749

Enclosed are results of analyses for samples as received by the laboratory on October 4, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 10/21/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J0749

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWG-21	24J0749-01	Ground Water		Draft Method 1633	
GWG-22	24J0749-02	Ground Water		Draft Method 1633	
GWG-11	24J0749-03	Ground Water		Draft Method 1633	
GWG-10	24J0749-04	Ground Water		Draft Method 1633	
GWG-10 DUP	24J0749-05	Ground Water		Draft Method 1633	
GWG-23	24J0749-06	Ground Water		Draft Method 1633	
SB-11-1	24J0749-07	Soil		Draft Method 1633	
				SM 2540G	
SB-11-22	24J0749-08	Soil		Draft Method 1633	
				SM 2540G	
SB-10-1	24J0749-09	Soil		Draft Method 1633	
				SM 2540G	
SB-10-19	24J0749-10	Soil		Draft Method 1633	
				SM 2540G	
SB-10-19 DUP	24J0749-11	Soil		Draft Method 1633	
				SM 2540G	
EB-01	24J0749-12	Equipment Blank Water		Draft Method 1633	
GWG-24	24J0749-13	Ground Water		Draft Method 1633	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Draft Method 1633

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

D9-NEtFOSE
S112435-CCB5

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S112435-CCB5

PF-17C

Extracted internal standard is outside of control limits. Analyte is a known difficult compound.

Analyte & Samples(s) Qualified:

13C2-4:2FTS
24J0749-05[GWG-10 DUP]

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FT
24J0749-05[GWG-10 DUP]

D3-NMeFOSA
24J0749-07[SB-11-1], 24J0749-08[SB-11-22], 24J0749-09[SB-10-1], 24J0749-10[SB-10-19], 24J0749-11[SB-10-19 DUP], B389424-BLK1, B389424-MRL1

D5-NEtFOSA
24J0749-07[SB-11-1], 24J0749-08[SB-11-22], 24J0749-09[SB-10-1], 24J0749-10[SB-10-19], 24J0749-11[SB-10-19 DUP], B389424-BLK1, B389424-MRL1

D7-NMeFOSE
24J0749-09[SB-10-1], 24J0749-11[SB-10-19 DUP]

D9-NEtFOSE
24J0749-09[SB-10-1], 24J0749-11[SB-10-19 DUP], B389424-BLK1

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
24J0749-07[SB-11-1], 24J0749-08[SB-11-22], 24J0749-09[SB-10-1], 24J0749-10[SB-10-19], 24J0749-11[SB-10-19 DUP], B389424-BLK1, B389424-MRL1

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
24J0749-09[SB-10-1], 24J0749-11[SB-10-19 DUP], B389424-BLK1

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
24J0749-07[SB-11-1], 24J0749-08[SB-11-22], 24J0749-09[SB-10-1], 24J0749-10[SB-10-19], 24J0749-11[SB-10-19 DUP], B389424-BLK1, B389424-MRL1

N-methylperfluorooctanesulfonamidoethanol(NMeF
24J0749-09[SB-10-1], 24J0749-11[SB-10-19 DUP]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C5-PFPeA
S112435-CCV5, S112443-CCV2

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
S112435-CCV5, S112443-CCV2

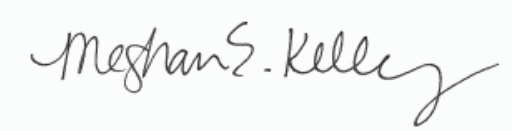
Perfluoro-3-methoxypropanoic acid (PFMPA)
S112435-CCV5, S112443-CCV2

Perfluoro-4-methoxybutanoic acid (PFMBA)
S112435-CCV5, S112443-CCV2

Perfluoropentanoic acid (PFPeA)
S112435-CCV5, S112443-CCV2

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-21 | Sampled: 10/1/2024 12:50

Sample ID: 24J0749-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoropentanoic acid (PFPeA)	7.5	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorohexanoic acid (PFHxA)	4.6	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoroheptanoic acid (PFHpA)	1.9	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorooctanoic acid (PFOA)	7.2	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorononanoic acid (PFNA)	1.6	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorodecanoic acid (PFDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorobutanesulfonic acid (PFBS)	4.1	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorohexanesulfonic acid (PFHxS)	2.0	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorooctanesulfonic acid (PFOS)	9.0	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-21 | Sampled: 10/1/2024 12:50

Sample ID: 24J0749-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 10:54	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	72.7	10-130		10/18/24 10:54
13C5-PFPeA	86.2	35-150		10/18/24 10:54
13C5-PFHxA	70.1	55-150		10/18/24 10:54
13C4-PFHpA	69.1	55-150		10/18/24 10:54
13C8-PFOA	73.9	60-140		10/18/24 10:54
13C9-PFNA	76.4	55-140		10/18/24 10:54
13C6-PFDA	77.0	50-140		10/18/24 10:54
13C7-PFUnA	68.5	30-140		10/18/24 10:54
13C2-PFDoA	62.9	10-150		10/18/24 10:54
13C2-PFTeDA	53.4	10-130		10/18/24 10:54
13C3-PFBS	78.1	55-150		10/18/24 10:54
13C3-PFHxS	79.1	55-150		10/18/24 10:54
13C8-PFOS	75.0	45-140		10/18/24 10:54
13C2-4:2FTS	69.0	60-200		10/18/24 10:54
13C2-6:2FTS	66.8	60-200		10/18/24 10:54
13C2-8:2FTS	61.1	50-200		10/18/24 10:54
13C8-PFOSA	70.4	30-130		10/18/24 10:54
D3-NMeFOSA	58.0	15-130		10/18/24 10:54
D5-NEtFOSA	57.2	10-130		10/18/24 10:54
D3-NMeFOSAA	66.1	45-200		10/18/24 10:54
D5-NEtFOSAA	63.6	10-200		10/18/24 10:54
D7-NMeFOSE	62.0	10-150		10/18/24 10:54
D9-NEtFOSE	58.8	10-150		10/18/24 10:54
13C3-HFPO-DA	71.2	25-160		10/18/24 10:54

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-21 | Sampled: 10/1/2024 12:50

Sample ID: 24J0749-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	1400	10	mg/L	1		Draft Method 1633	10/7/24	10/7/24 13:26	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-22 | Sampled: 10/1/2024 15:50

Sample ID: 24J0749-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoropentanoic acid (PFPeA)	4.7	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorohexanoic acid (PFHxA)	3.1	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorooctanoic acid (PFOA)	1.1	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-22 | Sampled: 10/1/2024 15:50

Sample ID: 24J0749-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:09	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	56.7	10-130		10/18/24 11:09
13C5-PFPeA	81.7	35-150		10/18/24 11:09
13C5-PFHxA	66.1	55-150		10/18/24 11:09
13C4-PFHpA	67.2	55-150		10/18/24 11:09
13C8-PFOA	72.1	60-140		10/18/24 11:09
13C9-PFNA	69.5	55-140		10/18/24 11:09
13C6-PFDA	68.9	50-140		10/18/24 11:09
13C7-PFUnA	65.0	30-140		10/18/24 11:09
13C2-PFDoA	54.4	10-150		10/18/24 11:09
13C2-PFTeDA	47.9	10-130		10/18/24 11:09
13C3-PFBS	69.3	55-150		10/18/24 11:09
13C3-PFHxS	72.8	55-150		10/18/24 11:09
13C8-PFOS	74.7	45-140		10/18/24 11:09
13C2-4:2FTS	61.2	60-200		10/18/24 11:09
13C2-6:2FTS	60.7	60-200		10/18/24 11:09
13C2-8:2FTS	55.4	50-200		10/18/24 11:09
13C8-PFOSA	63.6	30-130		10/18/24 11:09
D3-NMeFOSA	48.8	15-130		10/18/24 11:09
D5-NEtFOSA	46.4	10-130		10/18/24 11:09
D3-NMeFOSAA	60.0	45-200		10/18/24 11:09
D5-NEtFOSAA	58.9	10-200		10/18/24 11:09
D7-NMeFOSE	51.6	10-150		10/18/24 11:09
D9-NEtFOSE	50.5	10-150		10/18/24 11:09
13C3-HFPO-DA	65.3	25-160		10/18/24 11:09

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-22 | Sampled: 10/1/2024 15:50

Sample ID: 24J0749-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	74	10	mg/L	1		Draft Method 1633	10/7/24	10/7/24 13:26	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-11 | Sampled: 10/2/2024 13:35

Sample ID: 24J0749-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoropentanoic acid (PFPeA)	6.3	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorohexanoic acid (PFHxA)	2.0	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-11 | Sampled: 10/2/2024 13:35

Sample ID: 24J0749-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:25	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	64.4	10-130		10/18/24 11:25
13C5-PFPeA	89.7	35-150		10/18/24 11:25
13C5-PFHxA	72.5	55-150		10/18/24 11:25
13C4-PFHpA	74.7	55-150		10/18/24 11:25
13C8-PFOA	76.4	60-140		10/18/24 11:25
13C9-PFNA	81.0	55-140		10/18/24 11:25
13C6-PFDA	77.0	50-140		10/18/24 11:25
13C7-PFUnA	77.3	30-140		10/18/24 11:25
13C2-PFDoA	67.6	10-150		10/18/24 11:25
13C2-PFTeDA	60.3	10-130		10/18/24 11:25
13C3-PFBS	73.2	55-150		10/18/24 11:25
13C3-PFHxS	76.7	55-150		10/18/24 11:25
13C8-PFOS	76.2	45-140		10/18/24 11:25
13C2-4:2FTS	62.9	60-200		10/18/24 11:25
13C2-6:2FTS	68.3	60-200		10/18/24 11:25
13C2-8:2FTS	61.5	50-200		10/18/24 11:25
13C8-PFOSA	71.2	30-130		10/18/24 11:25
D3-NMeFOSA	46.5	15-130		10/18/24 11:25
D5-NEtFOSA	44.5	10-130		10/18/24 11:25
D3-NMeFOSAA	70.7	45-200		10/18/24 11:25
D5-NEtFOSAA	71.4	10-200		10/18/24 11:25
D7-NMeFOSE	60.3	10-150		10/18/24 11:25
D9-NEtFOSE	59.5	10-150		10/18/24 11:25
13C3-HFPO-DA	71.3	25-160		10/18/24 11:25

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-11 | Sampled: 10/2/2024 13:35

Sample ID: 24J0749-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	1300	10	mg/L	1		Draft Method 1633	10/7/24	10/7/24 13:26	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 | Sampled: 10/2/2024 14:15

Sample ID: 24J0749-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoropentanoic acid (PFPeA)	4.1	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorohexanoic acid (PFHxA)	4.3	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoroheptanoic acid (PFHpA)	1.4	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorooctanoic acid (PFOA)	2.6	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 | Sampled: 10/2/2024 14:15

Sample ID: 24J0749-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 11:41	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	70.1	10-130		10/18/24 11:41
13C5-PFPeA	95.3	35-150		10/18/24 11:41
13C5-PFHxA	77.4	55-150		10/18/24 11:41
13C4-PFHpA	78.3	55-150		10/18/24 11:41
13C8-PFOA	80.3	60-140		10/18/24 11:41
13C9-PFNA	80.8	55-140		10/18/24 11:41
13C6-PFDA	81.4	50-140		10/18/24 11:41
13C7-PFUnA	76.0	30-140		10/18/24 11:41
13C2-PFDoA	68.4	10-150		10/18/24 11:41
13C2-PFTeDA	61.7	10-130		10/18/24 11:41
13C3-PFBS	77.1	55-150		10/18/24 11:41
13C3-PFHxS	82.8	55-150		10/18/24 11:41
13C8-PFOS	84.0	45-140		10/18/24 11:41
13C2-4:2FTS	66.2	60-200		10/18/24 11:41
13C2-6:2FTS	74.1	60-200		10/18/24 11:41
13C2-8:2FTS	66.1	50-200		10/18/24 11:41
13C8-PFOSA	71.6	30-130		10/18/24 11:41
D3-NMeFOSA	48.2	15-130		10/18/24 11:41
D5-NEtFOSA	46.8	10-130		10/18/24 11:41
D3-NMeFOSAA	73.7	45-200		10/18/24 11:41
D5-NEtFOSAA	70.6	10-200		10/18/24 11:41
D7-NMeFOSE	62.2	10-150		10/18/24 11:41
D9-NEtFOSE	61.8	10-150		10/18/24 11:41
13C3-HFPO-DA	77.1	25-160		10/18/24 11:41

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 | Sampled: 10/2/2024 14:15

Sample ID: 24J0749-04

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	4000	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 14:00	ll

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 DUP | Sampled: 10/2/2024 14:20

Sample ID: 24J0749-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoropentanoic acid (PFPeA)	3.8	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorohexanoic acid (PFHxA)	3.9	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoroheptanoic acid (PFHpA)	1.1	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorooctanoic acid (PFOA)	2.4	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1	PF-17C	Draft Method 1633	10/17/24	10/18/24 12:26	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 DUP | Sampled: 10/2/2024 14:20

Sample ID: 24J0749-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:26	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	67.3		10-130		10/18/24 12:26
13C5-PFPeA	67.1		35-150		10/18/24 12:26
13C5-PFHxA	73.2		55-150		10/18/24 12:26
13C4-PFHpA	75.7		55-150		10/18/24 12:26
13C8-PFOA	73.5		60-140		10/18/24 12:26
13C9-PFNA	75.9		55-140		10/18/24 12:26
13C6-PFDA	75.4		50-140		10/18/24 12:26
13C7-PFUnA	71.2		30-140		10/18/24 12:26
13C2-PFDoA	65.3		10-150		10/18/24 12:26
13C2-PFTeDA	59.6		10-130		10/18/24 12:26
13C3-PFBS	68.3		55-150		10/18/24 12:26
13C3-PFHxS	76.6		55-150		10/18/24 12:26
13C8-PFOS	73.7		45-140		10/18/24 12:26
13C2-4:2FTS	**58.6**	*	60-200	PF-17C	10/18/24 12:26
13C2-6:2FTS	68.5		60-200		10/18/24 12:26
13C2-8:2FTS	65.2		50-200		10/18/24 12:26
13C8-PFOSA	70.8		30-130		10/18/24 12:26
D3-NMeFOSA	56.0		15-130		10/18/24 12:26
D5-NEtFOSA	51.1		10-130		10/18/24 12:26
D3-NMeFOSAA	71.7		45-200		10/18/24 12:26
D5-NEtFOSAA	70.2		10-200		10/18/24 12:26
D7-NMeFOSE	67.0		10-150		10/18/24 12:26
D9-NEtFOSE	66.8		10-150		10/18/24 12:26
13C3-HFPO-DA	72.8		25-160		10/18/24 12:26

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-10 DUP | Sampled: 10/2/2024 14:20

Sample ID: 24J0749-05

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	5600	14	mg/L	1		Draft Method 1633	10/8/24	10/8/24 14:00	ll

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-23 | Sampled: 10/2/2024 16:40

Sample ID: 24J0749-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoropentanoic acid (PFPeA)	8.9	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorohexanoic acid (PFHxA)	6.1	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoroheptanoic acid (PFHpA)	2.4	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorooctanoic acid (PFOA)	7.6	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorononanoic acid (PFNA)	3.2	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorobutanesulfonic acid (PFBS)	3.7	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoropentanesulfonic acid (PFPeS)	2.4	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorohexanesulfonic acid (PFHxS)	20	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorooctanesulfonic acid (PFOS)	5.9	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-23 | Sampled: 10/2/2024 16:40

Sample ID: 24J0749-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:42	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	70.5	10-130		10/18/24 12:42
13C5-PFPeA	95.8	35-150		10/18/24 12:42
13C5-PFHxA	78.3	55-150		10/18/24 12:42
13C4-PFHpA	78.9	55-150		10/18/24 12:42
13C8-PFOA	81.3	60-140		10/18/24 12:42
13C9-PFNA	84.0	55-140		10/18/24 12:42
13C6-PFDA	84.4	50-140		10/18/24 12:42
13C7-PFUnA	76.7	30-140		10/18/24 12:42
13C2-PFDoA	66.5	10-150		10/18/24 12:42
13C2-PFTeDA	59.5	10-130		10/18/24 12:42
13C3-PFBS	77.1	55-150		10/18/24 12:42
13C3-PFHxS	82.4	55-150		10/18/24 12:42
13C8-PFOS	79.7	45-140		10/18/24 12:42
13C2-4:2FTS	67.2	60-200		10/18/24 12:42
13C2-6:2FTS	71.7	60-200		10/18/24 12:42
13C2-8:2FTS	66.5	50-200		10/18/24 12:42
13C8-PFOSA	75.0	30-130		10/18/24 12:42
D3-NMeFOSA	50.4	15-130		10/18/24 12:42
D5-NEtFOSA	48.9	10-130		10/18/24 12:42
D3-NMeFOSAA	67.5	45-200		10/18/24 12:42
D5-NEtFOSAA	68.0	10-200		10/18/24 12:42
D7-NMeFOSE	63.9	10-150		10/18/24 12:42
D9-NEtFOSE	62.4	10-150		10/18/24 12:42
13C3-HFPO-DA	77.1	25-160		10/18/24 12:42

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-23 | Sampled: 10/2/2024 16:40

Sample ID: 24J0749-06

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	30	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 14:00	ll

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-1 | Sampled: 10/2/2024 13:00

Sample ID: 24J0749-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-1 | Sampled: 10/2/2024 13:00

Sample ID: 24J0749-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 2:58	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	76.7		10-130		10/18/24	2:58
13C5-PFPeA	87.3		35-150		10/18/24	2:58
13C5-PFHxA	73.1		55-150		10/18/24	2:58
13C4-PFHpA	75.5		55-150		10/18/24	2:58
13C8-PFOA	77.3		60-140		10/18/24	2:58
13C9-PFNA	81.6		55-140		10/18/24	2:58
13C6-PFDA	80.0		50-140		10/18/24	2:58
13C7-PFUnA	84.8		30-140		10/18/24	2:58
13C2-PFDoA	74.2		10-150		10/18/24	2:58
13C2-PFTeDA	61.8		10-130		10/18/24	2:58
13C3-PFBS	75.8		55-150		10/18/24	2:58
13C3-PFHxS	80.2		55-150		10/18/24	2:58
13C8-PFOS	83.3		45-140		10/18/24	2:58
13C2-4:2FTS	66.4		60-200		10/18/24	2:58
13C2-6:2FTS	73.3		60-200		10/18/24	2:58
13C2-8:2FTS	73.3		50-200		10/18/24	2:58
13C8-PFOSA	71.7		30-130		10/18/24	2:58
D3-NMeFOSA	**13.0**	*	15-130	PF-17C	10/18/24	2:58
D5-NEtFOSA	**6.68**	*	10-130	PF-17C	10/18/24	2:58
D3-NMeFOSAA	78.6		45-200		10/18/24	2:58
D5-NEtFOSAA	87.0		10-200		10/18/24	2:58
D7-NMeFOSE	51.2		10-150		10/18/24	2:58
D9-NEtFOSE	48.4		10-150		10/18/24	2:58
13C3-HFPO-DA	73.6		25-160		10/18/24	2:58

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-1 | Sampled: 10/2/2024 13:00

Sample ID: 24J0749-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.7		% Wt	1		SM 2540G	10/8/24	10/8/24 18:34	ANR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-22 | Sampled: 10/2/2024 13:05

Sample ID: 24J0749-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorooctanesulfonic acid (PFOS)	0.20	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-22 | Sampled: 10/2/2024 13:05

Sample ID: 24J0749-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:14	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	82.1		10-130		10/18/24	3:14
13C5-PFPeA	97.8		35-150		10/18/24	3:14
13C5-PFHxA	80.4		55-150		10/18/24	3:14
13C4-PFHpA	81.2		55-150		10/18/24	3:14
13C8-PFOA	77.7		60-140		10/18/24	3:14
13C9-PFNA	85.7		55-140		10/18/24	3:14
13C6-PFDA	83.1		50-140		10/18/24	3:14
13C7-PFUnA	90.0		30-140		10/18/24	3:14
13C2-PFDoA	76.3		10-150		10/18/24	3:14
13C2-PFTeDA	55.5		10-130		10/18/24	3:14
13C3-PFBS	79.9		55-150		10/18/24	3:14
13C3-PFHxS	81.5		55-150		10/18/24	3:14
13C8-PFOS	83.8		45-140		10/18/24	3:14
13C2-4:2FTS	75.1		60-200		10/18/24	3:14
13C2-6:2FTS	73.3		60-200		10/18/24	3:14
13C2-8:2FTS	72.9		50-200		10/18/24	3:14
13C8-PFOSA	74.7		30-130		10/18/24	3:14
D3-NMeFOSA	**3.53**	*	15-130	PF-17C	10/18/24	3:14
D5-NEtFOSA	**0.890**	*	10-130	PF-17C	10/18/24	3:14
D3-NMeFOSAA	72.6		45-200		10/18/24	3:14
D5-NEtFOSAA	81.7		10-200		10/18/24	3:14
D7-NMeFOSE	26.9		10-150		10/18/24	3:14
D9-NEtFOSE	21.1		10-150		10/18/24	3:14
13C3-HFPO-DA	81.0		25-160		10/18/24	3:14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-11-22 | Sampled: 10/2/2024 13:05

Sample ID: 24J0749-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.9		% Wt	1		SM 2540G	10/8/24	10/8/24 18:34	ANR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-1 | Sampled: 10/2/2024 12:30

Sample ID: 24J0749-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:30	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-1 | Sampled: 10/2/2024 12:30

Sample ID: 24J0749-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:30	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	81.5		10-130		10/18/24 3:30
13C5-PFPeA	97.0		35-150		10/18/24 3:30
13C5-PFHxA	78.4		55-150		10/18/24 3:30
13C4-PFHpA	79.4		55-150		10/18/24 3:30
13C8-PFOA	80.8		60-140		10/18/24 3:30
13C9-PFNA	81.9		55-140		10/18/24 3:30
13C6-PFDA	81.8		50-140		10/18/24 3:30
13C7-PFUnA	81.3		30-140		10/18/24 3:30
13C2-PFDoA	70.4		10-150		10/18/24 3:30
13C2-PFTeDA	26.1		10-130		10/18/24 3:30
13C3-PFBS	80.4		55-150		10/18/24 3:30
13C3-PFHxS	83.1		55-150		10/18/24 3:30
13C8-PFOS	82.0		45-140		10/18/24 3:30
13C2-4:2FTS	76.6		60-200		10/18/24 3:30
13C2-6:2FTS	77.8		60-200		10/18/24 3:30
13C2-8:2FTS	79.3		50-200		10/18/24 3:30
13C8-PFOSA	68.5		30-130		10/18/24 3:30
D3-NMeFOSA	**0.0278**	*	15-130	PF-17C	10/18/24 3:30
D5-NEtFOSA	**0.0242**	*	10-130	PF-17C	10/18/24 3:30
D3-NMeFOSAA	69.3		45-200		10/18/24 3:30
D5-NEtFOSAA	74.2		10-200		10/18/24 3:30
D7-NMeFOSE	**0.976**	*	10-150	PF-17C	10/18/24 3:30
D9-NEtFOSE	**0.617**	*	10-150	PF-17C	10/18/24 3:30
13C3-HFPO-DA	79.7		25-160		10/18/24 3:30

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-1 | Sampled: 10/2/2024 12:30

Sample ID: 24J0749-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.9		% Wt	1		SM 2540G	10/8/24	10/8/24 18:34	ANR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 | Sampled: 10/2/2024 12:35

Sample ID: 24J0749-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorooctanesulfonic acid (PFOS)	0.45	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 | Sampled: 10/2/2024 12:35

Sample ID: 24J0749-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 3:45	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	74.9		10-130		10/18/24	3:45
13C5-PFPeA	85.8		35-150		10/18/24	3:45
13C5-PFHxA	69.8		55-150		10/18/24	3:45
13C4-PFHpA	70.1		55-150		10/18/24	3:45
13C8-PFOA	75.3		60-140		10/18/24	3:45
13C9-PFNA	74.0		55-140		10/18/24	3:45
13C6-PFDA	80.3		50-140		10/18/24	3:45
13C7-PFUnA	72.7		30-140		10/18/24	3:45
13C2-PFDoA	64.8		10-150		10/18/24	3:45
13C2-PFTeDA	45.8		10-130		10/18/24	3:45
13C3-PFBS	74.6		55-150		10/18/24	3:45
13C3-PFHxS	74.1		55-150		10/18/24	3:45
13C8-PFOS	76.0		45-140		10/18/24	3:45
13C2-4:2FTS	70.3		60-200		10/18/24	3:45
13C2-6:2FTS	72.1		60-200		10/18/24	3:45
13C2-8:2FTS	66.8		50-200		10/18/24	3:45
13C8-PFOSA	64.7		30-130		10/18/24	3:45
D3-NMeFOSA	**4.67**	*	15-130	PF-17C	10/18/24	3:45
D5-NEtFOSA	**0.858**	*	10-130	PF-17C	10/18/24	3:45
D3-NMeFOSAA	70.4		45-200		10/18/24	3:45
D5-NEtFOSAA	75.7		10-200		10/18/24	3:45
D7-NMeFOSE	23.1		10-150		10/18/24	3:45
D9-NEtFOSE	16.0		10-150		10/18/24	3:45
13C3-HFPO-DA	66.6		25-160		10/18/24	3:45

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 | Sampled: 10/2/2024 12:35

Sample ID: 24J0749-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.3		% Wt	1		SM 2540G	10/8/24	10/8/24 18:34	ANR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 DUP | Sampled: 10/2/2024 12:37

Sample ID: 24J0749-11

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorooctanesulfonic acid (PFOS)	0.23	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:01	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 DUP | Sampled: 10/2/2024 12:37

Sample ID: 24J0749-11

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:01	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	85.9		10-130		10/18/24 4:01
13C5-PFPeA	102		35-150		10/18/24 4:01
13C5-PFHxA	82.3		55-150		10/18/24 4:01
13C4-PFHpA	85.4		55-150		10/18/24 4:01
13C8-PFOA	88.3		60-140		10/18/24 4:01
13C9-PFNA	89.9		55-140		10/18/24 4:01
13C6-PFDA	81.3		50-140		10/18/24 4:01
13C7-PFUnA	82.7		30-140		10/18/24 4:01
13C2-PFDoA	68.8		10-150		10/18/24 4:01
13C2-PFTeDA	23.0		10-130		10/18/24 4:01
13C3-PFBS	84.1		55-150		10/18/24 4:01
13C3-PFHxS	86.0		55-150		10/18/24 4:01
13C8-PFOS	89.1		45-140		10/18/24 4:01
13C2-4:2FTS	83.1		60-200		10/18/24 4:01
13C2-6:2FTS	81.1		60-200		10/18/24 4:01
13C2-8:2FTS	77.9		50-200		10/18/24 4:01
13C8-PFOSA	78.2		30-130		10/18/24 4:01
D3-NMeFOSA	**0.0521**	*	15-130	PF-17C	10/18/24 4:01
D5-NEtFOSA	**0.0689**	*	10-130	PF-17C	10/18/24 4:01
D3-NMeFOSAA	81.6		45-200		10/18/24 4:01
D5-NEtFOSAA	88.7		10-200		10/18/24 4:01
D7-NMeFOSE	**2.93**	*	10-150	PF-17C	10/18/24 4:01
D9-NEtFOSE	**1.18**	*	10-150	PF-17C	10/18/24 4:01
13C3-HFPO-DA	82.2		25-160		10/18/24 4:01

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: SB-10-19 DUP | Sampled: 10/2/2024 12:37

Sample ID: 24J0749-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.6		% Wt	1		SM 2540G	10/9/24	10/9/24 9:04	ML2

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: EB-01 | Sampled: 10/3/2024 09:00

Sample ID: 24J0749-12

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.2	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorooctanoic acid (PFOA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorononanoic acid (PFNA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorodecanoic acid (PFDA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.1	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	11	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	11	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.4	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	11	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	54	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	54	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.2	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.2	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: EB-01 | Sampled: 10/3/2024 09:00

Sample ID: 24J0749-12

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.2	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.2	ng/L	1		Draft Method 1633	10/17/24	10/18/24 12:58	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.8	10-130		10/18/24 12:58
13C5-PFPeA	94.9	35-150		10/18/24 12:58
13C5-PFHxA	77.7	55-150		10/18/24 12:58
13C4-PFHpA	77.9	55-150		10/18/24 12:58
13C8-PFOA	79.8	60-140		10/18/24 12:58
13C9-PFNA	81.7	55-140		10/18/24 12:58
13C6-PFDA	84.2	50-140		10/18/24 12:58
13C7-PFUnA	81.8	30-140		10/18/24 12:58
13C2-PFDoA	71.6	10-150		10/18/24 12:58
13C2-PFTeDA	63.6	10-130		10/18/24 12:58
13C3-PFBS	79.5	55-150		10/18/24 12:58
13C3-PFHxS	83.8	55-150		10/18/24 12:58
13C8-PFOS	84.5	45-140		10/18/24 12:58
13C2-4:2FTS	67.0	60-200		10/18/24 12:58
13C2-6:2FTS	75.1	60-200		10/18/24 12:58
13C2-8:2FTS	70.2	50-200		10/18/24 12:58
13C8-PFOSA	73.1	30-130		10/18/24 12:58
D3-NMeFOSA	52.4	15-130		10/18/24 12:58
D5-NEtFOSA	53.4	10-130		10/18/24 12:58
D3-NMeFOSAA	74.8	45-200		10/18/24 12:58
D5-NEtFOSAA	71.7	10-200		10/18/24 12:58
D7-NMeFOSE	70.0	10-150		10/18/24 12:58
D9-NEtFOSE	68.2	10-150		10/18/24 12:58
13C3-HFPO-DA	77.0	25-160		10/18/24 12:58

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: EB-01 | Sampled: 10/3/2024 09:00

Sample ID: 24J0749-12

Sample Matrix: Equipment Blank Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/7/24	10/7/24 6:01	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-24 | Sampled: 10/3/2024 12:45

Sample ID: 24J0749-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorohexanoic acid (PFHxA)	1.7	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoroheptanoic acid (PFHpA)	1.3	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorooctanoic acid (PFOA)	6.0	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.1	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorooctanesulfonic acid (PFOS)	1.5	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-24 | Sampled: 10/3/2024 12:45

Sample ID: 24J0749-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/18/24 13:13	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	69.2	10-130		10/18/24 13:13
13C5-PFPeA	101	35-150		10/18/24 13:13
13C5-PFHxA	81.4	55-150		10/18/24 13:13
13C4-PFHpA	82.7	55-150		10/18/24 13:13
13C8-PFOA	87.6	60-140		10/18/24 13:13
13C9-PFNA	87.3	55-140		10/18/24 13:13
13C6-PFDA	87.2	50-140		10/18/24 13:13
13C7-PFUnA	85.7	30-140		10/18/24 13:13
13C2-PFDoA	76.0	10-150		10/18/24 13:13
13C2-PFTeDA	68.5	10-130		10/18/24 13:13
13C3-PFBS	83.7	55-150		10/18/24 13:13
13C3-PFHxS	89.9	55-150		10/18/24 13:13
13C8-PFOS	89.2	45-140		10/18/24 13:13
13C2-4:2FTS	76.8	60-200		10/18/24 13:13
13C2-6:2FTS	82.5	60-200		10/18/24 13:13
13C2-8:2FTS	77.3	50-200		10/18/24 13:13
13C8-PFOSA	84.6	30-130		10/18/24 13:13
D3-NMeFOSA	73.4	15-130		10/18/24 13:13
D5-NEtFOSA	73.3	10-130		10/18/24 13:13
D3-NMeFOSAA	82.1	45-200		10/18/24 13:13
D5-NEtFOSAA	80.7	10-200		10/18/24 13:13
D7-NMeFOSE	78.9	10-150		10/18/24 13:13
D9-NEtFOSE	78.2	10-150		10/18/24 13:13
13C3-HFPO-DA	81.1	25-160		10/18/24 13:13

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0749

Date Received: 10/4/2024

Field Sample #: GWG-24 | Sampled: 10/3/2024 12:45

Sample ID: 24J0749-13

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	10000	17	mg/L	1		Draft Method 1633	10/8/24	10/8/24 14:00	ll

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Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J0749-07 [SB-11-1]	B389424	5.97	5.00	10/16/24
24J0749-08 [SB-11-22]	B389424	5.73	5.00	10/16/24
24J0749-09 [SB-10-1]	B389424	6.07	5.00	10/16/24
24J0749-10 [SB-10-19]	B389424	5.60	5.00	10/16/24
24J0749-11 [SB-10-19 DUP]	B389424	5.85	5.00	10/16/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J0749-01 [GWG-21]	B388407	50.0	10/07/24
24J0749-02 [GWG-22]	B388407	50.0	10/07/24
24J0749-03 [GWG-11]	B388407	50.0	10/07/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J0749-12 [EB-01]	B388408	50.0	10/07/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J0749-04 [GWG-10]	B388546	50.0	10/08/24
24J0749-05 [GWG-10 DUP]	B388546	35.0	10/08/24
24J0749-06 [GWG-23]	B388546	50.0	10/08/24
24J0749-13 [GWG-24]	B388546	30.0	10/08/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/7/2024 per NO PREP in Batch B388407**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J0749-01 [GWG-21]	B389235	519	5.00	10/17/24
24J0749-02 [GWG-22]	B389235	488	5.00	10/17/24
24J0749-03 [GWG-11]	B389235	503	5.00	10/17/24
24J0749-04 [GWG-10]	B389235	502	5.00	10/17/24
24J0749-05 [GWG-10 DUP]	B389235	506	5.00	10/17/24
24J0749-06 [GWG-23]	B389235	516	5.00	10/17/24
24J0749-12 [EB-01]	B389235	459	5.00	10/17/24
24J0749-13 [GWG-24]	B389235	499	5.00	10/17/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J0749-07 [SB-11-1]	B388700	10/08/24
24J0749-08 [SB-11-22]	B388700	10/08/24
24J0749-09 [SB-10-1]	B388700	10/08/24
24J0749-10 [SB-10-19]	B388700	10/08/24

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Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J0749-11 [SB-10-19 DUP]	B388757	10/09/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
Blank (B389235-BLK1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*80.4*		ng/L	98.86		81.3	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
Blank (B389235-BLK1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Surrogate: 13C5-PFPeA	*44.6*		ng/L	49.43		90.3	35-150			
Surrogate: 13C5-PFHxA	*18.8*		ng/L	24.72		76.1	55-150			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	24.72		76.2	55-150			
Surrogate: 13C8-PFOA	*20.1*		ng/L	24.72		81.5	60-140			
Surrogate: 13C9-PFNA	*9.95*		ng/L	12.36		80.5	55-140			
Surrogate: 13C6-PFDA	*9.80*		ng/L	12.36		79.3	50-140			
Surrogate: 13C7-PFUnA	*10.1*		ng/L	12.36		81.9	30-140			
Surrogate: 13C2-PFDoA	*8.74*		ng/L	12.36		70.8	10-150			
Surrogate: 13C2-PFTeDA	*7.89*		ng/L	12.36		63.9	10-130			
Surrogate: 13C3-PFBS	*19.6*		ng/L	24.72		79.2	55-150			
Surrogate: 13C3-PFHxS	*20.6*		ng/L	24.72		83.5	55-150			
Surrogate: 13C8-PFOS	*20.2*		ng/L	24.72		81.6	45-140			
Surrogate: 13C2-4:2FTS	*33.3*		ng/L	49.43		67.3	60-200			
Surrogate: 13C2-6:2FTS	*35.1*		ng/L	49.43		71.0	60-200			
Surrogate: 13C2-8:2FTS	*34.7*		ng/L	49.43		70.2	50-200			
Surrogate: 13C8-PFOSA	*19.0*		ng/L	24.72		76.9	30-130			
Surrogate: D3-NMeFOSA	*15.7*		ng/L	24.72		63.5	15-130			
Surrogate: D5-NEtFOSA	*15.5*		ng/L	24.72		62.7	10-130			
Surrogate: D3-NMeFOSAA	*38.5*		ng/L	49.43		77.9	45-200			
Surrogate: D5-NEtFOSAA	*38.1*		ng/L	49.43		77.0	10-200			
Surrogate: D7-NMeFOSE	*193*		ng/L	247.2		78.1	10-150			
Surrogate: D9-NEtFOSE	*190*		ng/L	247.2		76.9	10-150			
Surrogate: 13C3-HFPO-DA	*71.8*		ng/L	98.86		72.6	25-160			
LCS (B389235-BS1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorobutanoic acid (PFBA)	108	3.9	ng/L	94.55		115	58-148			
Perfluoropentanoic acid (PFPeA)	56.0	2.0	ng/L	47.27		118	54-152			
Perfluorohexanoic acid (PFHxA)	27.6	0.98	ng/L	23.64		117	55-152			
Perfluoroheptanoic acid (PFHpA)	25.7	0.98	ng/L	23.64		109	54-154			
Perfluorooctanoic acid (PFOA)	26.1	0.98	ng/L	23.64		110	52-161			
Perfluorononanoic acid (PFNA)	26.6	0.98	ng/L	23.64		112	59-149			
Perfluorodecanoic acid (PFDA)	26.1	0.98	ng/L	23.64		111	52-147			
Perfluoroundecanoic acid (PFUnA)	26.8	0.98	ng/L	23.64		114	48-159			
Perfluorododecanoic acid (PFDoA)	26.2	0.98	ng/L	23.64		111	64-142			
Perfluorotridecanoic acid (PFTrDA)	26.7	0.98	ng/L	23.64		113	49-148			
Perfluorotetradecanoic acid (PFTeDA)	26.8	0.98	ng/L	23.64		113	47-161			
Perfluorobutanesulfonic acid (PFBS)	22.2	0.98	ng/L	20.98		106	62-144			
Perfluoropentanesulfonic acid (PFPeS)	24.2	0.98	ng/L	22.22		109	59-151			
Perfluorohexanesulfonic acid (PFHxS)	21.4	0.98	ng/L	21.63		98.9	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	26.7	0.98	ng/L	22.51		119	55-152			
Perfluorooctanesulfonic acid (PFOS)	24.1	0.98	ng/L	21.92		110	58-149			
Perfluorononanesulfonic acid (PFNS)	24.2	0.98	ng/L	22.75		106	52-148			
Perfluorodecanesulfonic acid (PFDS)	22.9	0.98	ng/L	22.81		100	51-147			
Perfluorododecanesulfonic acid (PFDoS)	22.1	0.98	ng/L	22.93		96.4	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	102	3.9	ng/L	88.64		116	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	107	3.9	ng/L	89.82		119	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	104	3.9	ng/L	91.00		115	63-152			
Perfluorooctanesulfonamide (PFOSA)	25.4	0.98	ng/L	23.64		107	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.6	0.98	ng/L	23.64		100	63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
LCS (B389235-BS1)				Prepared: 10/17/24 Analyzed: 10/18/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.3	0.98	ng/L	23.64		107	65-139			
N-MeFOSAA (NMeFOSAA)	27.6	0.98	ng/L	23.64		117	58-144			
N-EtFOSAA (NEtFOSAA)	22.5	0.98	ng/L	23.64		95.4	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	250	9.8	ng/L	236.4		106	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	249	9.8	ng/L	236.4		105	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.9	3.9	ng/L	94.55		102	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	96.3	3.9	ng/L	89.23		108	68-146			
9Cl-PF3ONS (F53B Minor)	91.2	3.9	ng/L	88.64		103	56-156			
11Cl-PF3OUdS (F53B Major)	85.7	3.9	ng/L	89.23		96.1	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	228	9.8	ng/L	236.4		96.6	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1340	49	ng/L	1182		114	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1200	49	ng/L	1182		101	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	51.4	2.0	ng/L	42.07		122	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	48.7	2.0	ng/L	47.27		103	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	50.9	2.0	ng/L	47.27		108	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	48.1	2.0	ng/L	47.27		102	48-161			
Surrogate: 13C4-PFBA	*79.1*		ng/L	98.49		80.3	10-130			
Surrogate: 13C5-PFPeA	*45.4*		ng/L	49.24		92.2	35-150			
Surrogate: 13C5-PFHxA	*19.2*		ng/L	24.62		77.9	55-150			
Surrogate: 13C4-PFHpA	*19.1*		ng/L	24.62		77.4	55-150			
Surrogate: 13C8-PFOA	*19.9*		ng/L	24.62		80.7	60-140			
Surrogate: 13C9-PFNA	*10.1*		ng/L	12.31		82.1	55-140			
Surrogate: 13C6-PFDA	*9.90*		ng/L	12.31		80.4	50-140			
Surrogate: 13C7-PFUnA	*9.26*		ng/L	12.31		75.2	30-140			
Surrogate: 13C2-PFDoA	*8.66*		ng/L	12.31		70.3	10-150			
Surrogate: 13C2-PFTeDA	*7.60*		ng/L	12.31		61.8	10-130			
Surrogate: 13C3-PFBS	*19.5*		ng/L	24.62		79.3	55-150			
Surrogate: 13C3-PFHxS	*20.9*		ng/L	24.62		84.7	55-150			
Surrogate: 13C8-PFOS	*19.7*		ng/L	24.62		80.0	45-140			
Surrogate: 13C2-4:2FTS	*36.3*		ng/L	49.24		73.7	60-200			
Surrogate: 13C2-6:2FTS	*36.7*		ng/L	49.24		74.6	60-200			
Surrogate: 13C2-8:2FTS	*37.1*		ng/L	49.24		75.4	50-200			
Surrogate: 13C8-PFOSA	*17.7*		ng/L	24.62		71.8	30-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	24.62		57.3	15-130			
Surrogate: D5-NEtFOSA	*14.3*		ng/L	24.62		58.2	10-130			
Surrogate: D3-NMeFOSAA	*37.2*		ng/L	49.24		75.5	45-200			
Surrogate: D5-NEtFOSAA	*37.7*		ng/L	49.24		76.5	10-200			
Surrogate: D7-NMeFOSE	*175*		ng/L	246.2		71.2	10-150			
Surrogate: D9-NEtFOSE	*166*		ng/L	246.2		67.4	10-150			
Surrogate: 13C3-HFPO-DA	*73.8*		ng/L	98.49		74.9	25-160			
MRL Check (B389235-MRL1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorobutanoic acid (PFBA)	9.30	4.0	ng/L	7.907		118	44-157			
Perfluoropentanoic acid (PFPeA)	4.66	2.0	ng/L	3.953		118	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
MRL Check (B389235-MRL1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorohexanoic acid (PFHxA)	2.39	0.99	ng/L	1.977		121	62-149			
Perfluoroheptanoic acid (PFHpA)	2.25	0.99	ng/L	1.977		114	56-150			
Perfluorooctanoic acid (PFOA)	2.24	0.99	ng/L	1.977		113	57-161			
Perfluorononanoic acid (PFNA)	2.15	0.99	ng/L	1.977		109	53-157			
Perfluorodecanoic acid (PFDA)	2.28	0.99	ng/L	1.977		116	43-158			
Perfluoroundecanoic acid (PFUnA)	1.94	0.99	ng/L	1.977		98.1	50-155			
Perfluorododecanoic acid (PFDoA)	2.31	0.99	ng/L	1.977		117	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.34	0.99	ng/L	1.977		118	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.31	0.99	ng/L	1.977		117	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.91	0.99	ng/L	1.753		109	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.18	0.99	ng/L	1.860		117	58-144			
Perfluorohexanesulfonic acid (PFHxS)	1.99	0.99	ng/L	1.807		110	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.42	0.99	ng/L	1.884		129	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.26	0.99	ng/L	1.834		123	43-162			
Perfluorononanesulfonic acid (PFNS)	2.13	0.99	ng/L	1.902		112	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.93	0.99	ng/L	1.907		101	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.92	0.99	ng/L	1.917		100	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.67	4.0	ng/L	7.413		117	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.46	4.0	ng/L	7.511		126	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	9.48	4.0	ng/L	7.590		125	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.30	0.99	ng/L	1.977		116	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.61	0.99	ng/L	1.977		132	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.59	0.99	ng/L	1.977		131	49-156			
N-MeFOSAA (NMeFOSAA)	2.87	0.99	ng/L	1.977		145	32-160			
N-EtFOSAA (NEtFOSAA)	1.91	0.99	ng/L	1.977		96.7	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	23.6	9.9	ng/L	19.77		119	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.9	9.9	ng/L	19.77		116	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.74	4.0	ng/L	7.907		111	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.06	4.0	ng/L	7.472		121	61-148			
9Cl-PF3ONS (F53B Minor)	7.95	4.0	ng/L	7.393		108	44-167			
11Cl-PF3OUdS (F53B Major)	7.65	4.0	ng/L	7.472		102	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	18.7	9.9	ng/L	19.77		94.9	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	108	49	ng/L	98.83		109	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	92.8	49	ng/L	98.83		93.9	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.01	2.0	ng/L	3.518		114	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.98	2.0	ng/L	3.953		101	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.95	2.0	ng/L	3.953		99.8	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.75	2.0	ng/L	3.953		94.8	47-160			
Surrogate: 13C4-PFBA	*76.6*		ng/L	98.83		77.5	10-130			
Surrogate: 13C5-PFPeA	*43.8*		ng/L	49.42		88.7	35-150			
Surrogate: 13C5-PFHxA	*18.4*		ng/L	24.71		74.6	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
MRL Check (B389235-MRL1)				Prepared: 10/17/24 Analyzed: 10/18/24						
Surrogate: 13C4-PFHpA	*18.0*		ng/L	24.71		72.9	55-150			
Surrogate: 13C8-PFOA	*19.7*		ng/L	24.71		79.7	60-140			
Surrogate: 13C9-PFNA	*9.28*		ng/L	12.35		75.1	55-140			
Surrogate: 13C6-PFDA	*9.57*		ng/L	12.35		77.5	50-140			
Surrogate: 13C7-PFUnA	*9.73*		ng/L	12.35		78.8	30-140			
Surrogate: 13C2-PFDoA	*8.58*		ng/L	12.35		69.4	10-150			
Surrogate: 13C2-PFTeDA	*7.67*		ng/L	12.35		62.1	10-130			
Surrogate: 13C3-PFBS	*18.7*		ng/L	24.71		75.7	55-150			
Surrogate: 13C3-PFHxS	*19.1*		ng/L	24.71		77.5	55-150			
Surrogate: 13C8-PFOS	*19.1*		ng/L	24.71		77.4	45-140			
Surrogate: 13C2-4:2FTS	*31.4*		ng/L	49.42		63.6	60-200			
Surrogate: 13C2-6:2FTS	*33.2*		ng/L	49.42		67.1	60-200			
Surrogate: 13C2-8:2FTS	*32.4*		ng/L	49.42		65.5	50-200			
Surrogate: 13C8-PFOSA	*17.7*		ng/L	24.71		71.8	30-130			
Surrogate: D3-NMeFOSA	*14.3*		ng/L	24.71		57.8	15-130			
Surrogate: D5-NEtFOSA	*14.5*		ng/L	24.71		58.6	10-130			
Surrogate: D3-NMeFOSAA	*37.0*		ng/L	49.42		74.8	45-200			
Surrogate: D5-NEtFOSAA	*36.4*		ng/L	49.42		73.6	10-200			
Surrogate: D7-NMeFOSE	*171*		ng/L	247.1		69.1	10-150			
Surrogate: D9-NEtFOSE	*170*		ng/L	247.1		68.7	10-150			
Surrogate: 13C3-HFPO-DA	*67.2*		ng/L	98.83		68.0	25-160			
Matrix Spike (B389235-MS1)	**Source: 24J0749-06**			Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorobutanoic acid (PFBA)	111	3.8	ng/L	92.02	3.02	118	58-148			
Perfluoropentanoic acid (PFPeA)	65.0	1.9	ng/L	46.01	8.91	122	54-152			
Perfluorohexanoic acid (PFHxA)	33.6	0.96	ng/L	23.00	6.12	120	55-152			
Perfluoroheptanoic acid (PFHpA)	27.3	0.96	ng/L	23.00	2.39	108	54-154			
Perfluorooctanoic acid (PFOA)	32.8	0.96	ng/L	23.00	7.59	110	52-161			
Perfluorononanoic acid (PFNA)	29.8	0.96	ng/L	23.00	3.22	116	59-149			
Perfluorodecanoic acid (PFDA)	25.7	0.96	ng/L	23.00	ND	112	52-147			
Perfluoroundecanoic acid (PFUnA)	25.0	0.96	ng/L	23.00	ND	109	48-159			
Perfluorododecanoic acid (PFDoA)	25.5	0.96	ng/L	23.00	ND	111	64-142			
Perfluorotridecanoic acid (PFTrDA)	26.4	0.96	ng/L	23.00	ND	115	49-148			
Perfluorotetradecanoic acid (PFTeDA)	26.3	0.96	ng/L	23.00	ND	114	47-161			
Perfluorobutanesulfonic acid (PFBS)	25.7	0.96	ng/L	20.42	3.66	108	62-144			
Perfluoropentanesulfonic acid (PFPeS)	26.8	0.96	ng/L	21.62	2.42	113	59-151			
Perfluorohexanesulfonic acid (PFHxS)	40.7	0.96	ng/L	21.05	19.6	99.8	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	27.2	0.96	ng/L	21.91	ND	124	55-152			
Perfluorooctanesulfonic acid (PFOS)	29.1	0.96	ng/L	21.34	5.86	109	58-149			
Perfluorononanesulfonic acid (PFNS)	24.1	0.96	ng/L	22.14	ND	109	52-148			
Perfluorodecanesulfonic acid (PFDS)	21.5	0.96	ng/L	22.20	ND	96.7	51-147			
Perfluorododecanesulfonic acid (PFDoS)	21.9	0.96	ng/L	22.31	ND	98.2	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	104	3.8	ng/L	86.27	ND	121	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	105	3.8	ng/L	87.42	ND	120	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	101	3.8	ng/L	88.57	ND	114	63-152			
Perfluorooctanesulfonamide (PFOSA)	25.3	0.96	ng/L	23.00	ND	110	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	26.9	0.96	ng/L	23.00	ND	117	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	27.1	0.96	ng/L	23.00	ND	118	65-139			
N-MeFOSAA (NMeFOSAA)	28.5	0.96	ng/L	23.00	ND	124	58-144			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
Matrix Spike (B389235-MS1)	**Source: 24J0749-06**			Prepared: 10/17/24 Analyzed: 10/18/24						
N-EtFOSAA (NEtFOSAA)	22.6	0.96	ng/L	23.00	ND	98.1	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	254	9.6	ng/L	230.0	ND	110	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	249	9.6	ng/L	230.0	ND	108	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	100	3.8	ng/L	92.02	ND	109	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	99.7	3.8	ng/L	86.84	ND	115	68-146			
9Cl-PF3ONS (F53B Minor)	87.9	3.8	ng/L	86.27	ND	102	56-156			
11Cl-PF3OUdS (F53B Major)	79.4	3.8	ng/L	86.84	ND	91.4	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	234	9.6	ng/L	230.0	ND	102	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1360	48	ng/L	1150	ND	118	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1260	48	ng/L	1150	ND	110	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	51.2	1.9	ng/L	40.95	ND	125	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	45.3	1.9	ng/L	46.01	ND	98.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	49.0	1.9	ng/L	46.01	ND	107	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	48.6	1.9	ng/L	46.01	ND	106	48-161			
Surrogate: 13C4-PFBA	*61.1*		ng/L	95.85		63.8	10-130			
Surrogate: 13C5-PFPeA	*45.0*		ng/L	47.93		94.0	35-150			
Surrogate: 13C5-PFHxA	*18.3*		ng/L	23.96		76.3	55-150			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	23.96		78.4	55-150			
Surrogate: 13C8-PFOA	*19.8*		ng/L	23.96		82.5	60-140			
Surrogate: 13C9-PFNA	*10.0*		ng/L	11.98		83.6	55-140			
Surrogate: 13C6-PFDA	*9.36*		ng/L	11.98		78.1	50-140			
Surrogate: 13C7-PFUnA	*8.76*		ng/L	11.98		73.1	30-140			
Surrogate: 13C2-PFDoA	*7.96*		ng/L	11.98		66.4	10-150			
Surrogate: 13C2-PFTeDA	*7.10*		ng/L	11.98		59.2	10-130			
Surrogate: 13C3-PFBS	*19.6*		ng/L	23.96		81.8	55-150			
Surrogate: 13C3-PFHxS	*20.4*		ng/L	23.96		85.1	55-150			
Surrogate: 13C8-PFOS	*19.3*		ng/L	23.96		80.7	45-140			
Surrogate: 13C2-4:2FTS	*37.6*		ng/L	47.93		78.5	60-200			
Surrogate: 13C2-6:2FTS	*37.2*		ng/L	47.93		77.7	60-200			
Surrogate: 13C2-8:2FTS	*34.9*		ng/L	47.93		72.8	50-200			
Surrogate: 13C8-PFOSA	*18.6*		ng/L	23.96		77.6	30-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	23.96		58.8	15-130			
Surrogate: D5-NEtFOSA	*14.3*		ng/L	23.96		59.5	10-130			
Surrogate: D3-NMeFOSAA	*33.6*		ng/L	47.93		70.1	45-200			
Surrogate: D5-NEtFOSAA	*34.3*		ng/L	47.93		71.5	10-200			
Surrogate: D7-NMeFOSE	*152*		ng/L	239.6		63.6	10-150			
Surrogate: D9-NEtFOSE	*149*		ng/L	239.6		62.3	10-150			
Surrogate: 13C3-HFPO-DA	*71.6*		ng/L	95.85		74.7	25-160			
Matrix Spike Dup (B389235-MSD1)	**Source: 24J0749-06**			Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorobutanoic acid (PFBA)	112	4.0	ng/L	95.29	3.02	115	58-148	1.04	20	
Perfluoropentanoic acid (PFPeA)	64.3	2.0	ng/L	47.64	8.91	116	54-152	1.04	20	
Perfluorohexanoic acid (PFHxA)	33.8	0.99	ng/L	23.82	6.12	116	55-152	0.552	25	
Perfluoroheptanoic acid (PFHpA)	28.0	0.99	ng/L	23.82	2.39	108	54-154	2.60	25	
Perfluorooctanoic acid (PFOA)	33.2	0.99	ng/L	23.82	7.59	108	52-161	1.23	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
Matrix Spike Dup (B389235-MSD1)	**Source: 24J0749-06**			Prepared: 10/17/24 Analyzed: 10/18/24						
Perfluorononanoic acid (PFNA)	29.9	0.99	ng/L	23.82	3.22	112	59-149	0.350	25	
Perfluorodecanoic acid (PFDA)	26.7	0.99	ng/L	23.82	ND	112	52-147	3.86	25	
Perfluoroundecanoic acid (PFUnA)	26.3	0.99	ng/L	23.82	ND	110	48-159	5.00	30	
Perfluorododecanoic acid (PFDoA)	25.9	0.99	ng/L	23.82	ND	109	64-142	1.48	25	
Perfluorotridecanoic acid (PFTrDA)	26.8	0.99	ng/L	23.82	ND	112	49-148	1.34	25	
Perfluorotetradecanoic acid (PFTeDA)	27.5	0.99	ng/L	23.82	ND	115	47-161	4.24	25	
Perfluorobutanesulfonic acid (PFBS)	25.8	0.99	ng/L	21.14	3.66	105	62-144	0.313	20	
Perfluoropentanesulfonic acid (PFPeS)	27.1	0.99	ng/L	22.39	2.42	110	59-151	1.01	25	
Perfluorohexanesulfonic acid (PFHxS)	41.6	0.99	ng/L	21.80	19.6	101	57-146	2.32	25	
Perfluoroheptanesulfonic acid (PFHpS)	29.0	0.99	ng/L	22.69	ND	128	55-152	6.21	25	
Perfluorooctanesulfonic acid (PFOS)	30.6	0.99	ng/L	22.09	5.86	112	58-149	4.96	20	
Perfluorononanesulfonic acid (PFNS)	26.1	0.99	ng/L	22.93	ND	114	52-148	7.82	25	
Perfluorodecanesulfonic acid (PFDS)	24.9	0.99	ng/L	22.99	ND	108	51-147	14.8	25	
Perfluorododecanesulfonic acid (PFDoS)	23.9	0.99	ng/L	23.11	ND	103	36-145	8.59	30	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	104	4.0	ng/L	89.33	ND	116	67-146	0.456	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	107	4.0	ng/L	90.52	ND	118	61-151	2.18	30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	103	4.0	ng/L	91.71	ND	112	63-152	2.32	30	
Perfluorooctanesulfonamide (PFOSA)	25.4	0.99	ng/L	23.82	ND	107	61-148	0.726	20	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	26.9	0.99	ng/L	23.82	ND	113	63-145	0.281	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	27.8	0.99	ng/L	23.82	ND	117	65-139	2.44	25	
N-MeFOSAA (NMeFOSAA)	26.7	0.99	ng/L	23.82	ND	112	58-144	6.65	25	
N-EtFOSAA (NEtFOSAA)	22.9	0.99	ng/L	23.82	ND	96.0	59-146	1.33	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	260	9.9	ng/L	238.2	ND	109	71-136	2.24	20	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	255	9.9	ng/L	238.2	ND	107	69-137	2.36	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	98.8	4.0	ng/L	95.29	ND	104	63-144	1.36	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	99.5	4.0	ng/L	89.93	ND	111	68-146	0.242	20	
9Cl-PF3ONS (F53B Minor)	91.5	4.0	ng/L	89.33	ND	102	56-156	3.96	30	
11Cl-PF3OUdS (F53B Major)	85.8	4.0	ng/L	89.93	ND	95.4	46-156	7.79	35	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	229	9.9	ng/L	238.2	ND	96.1	62-129	2.07	20	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1380	50	ng/L	1191	ND	115	63-134	1.20	20	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1300	50	ng/L	1191	ND	109	50-138	2.72	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	51.6	2.0	ng/L	42.40	ND	122	56-151	0.770	20	
Perfluoro-3-methoxypropanoic acid (PFMPA)	46.3	2.0	ng/L	47.64	ND	97.1	51-145	2.13	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	50.0	2.0	ng/L	47.64	ND	105	55-148	1.95	20	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	48.8	2.0	ng/L	47.64	ND	102	48-161	0.386	35	
Surrogate: 13C4-PFBA	*60.2*		ng/L	99.26		60.6	10-130			
Surrogate: 13C5-PFPeA	*45.4*		ng/L	49.63		91.5	35-150			
Surrogate: 13C5-PFHxA	*18.3*		ng/L	24.81		73.9	55-150			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	24.81		75.6	55-150			
Surrogate: 13C8-PFOA	*19.6*		ng/L	24.81		79.0	60-140			
Surrogate: 13C9-PFNA	*9.69*		ng/L	12.41		78.1	55-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389235 - Draft Method 1633										
Matrix Spike Dup (B389235-MSD1)	**Source: 24J0749-06**			Prepared: 10/17/24 Analyzed: 10/18/24						
Surrogate: 13C6-PFDA	*9.40*		ng/L	12.41		75.8	50-140			
Surrogate: 13C7-PFUnA	*8.73*		ng/L	12.41		70.4	30-140			
Surrogate: 13C2-PFDoA	*8.31*		ng/L	12.41		67.0	10-150			
Surrogate: 13C2-PFTeDA	*7.15*		ng/L	12.41		57.6	10-130			
Surrogate: 13C3-PFBS	*18.9*		ng/L	24.81		76.1	55-150			
Surrogate: 13C3-PFHxS	*20.0*		ng/L	24.81		80.8	55-150			
Surrogate: 13C8-PFOS	*17.9*		ng/L	24.81		72.0	45-140			
Surrogate: 13C2-4:2FTS	*36.3*		ng/L	49.63		73.2	60-200			
Surrogate: 13C2-6:2FTS	*37.1*		ng/L	49.63		74.7	60-200			
Surrogate: 13C2-8:2FTS	*34.7*		ng/L	49.63		69.9	50-200			
Surrogate: 13C8-PFOSA	*18.3*		ng/L	24.81		73.7	30-130			
Surrogate: D3-NMeFOSA	*14.0*		ng/L	24.81		56.5	15-130			
Surrogate: D5-NEtFOSA	*13.7*		ng/L	24.81		55.0	10-130			
Surrogate: D3-NMeFOSAA	*36.2*		ng/L	49.63		73.0	45-200			
Surrogate: D5-NEtFOSAA	*34.9*		ng/L	49.63		70.3	10-200			
Surrogate: D7-NMeFOSE	*166*		ng/L	248.1		66.8	10-150			
Surrogate: D9-NEtFOSE	*159*		ng/L	248.1		64.2	10-150			
Surrogate: 13C3-HFPO-DA	*73.6*		ng/L	99.26		74.2	25-160			
Batch B389424 - Draft Method 1633										
Blank (B389424-BLK1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							PF-17C
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633											
Blank (B389424-BLK1)				Prepared: 10/16/24 Analyzed: 10/17/24							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet								
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet								PF-17C
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet								
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet								
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet								
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet								
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet								
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet								
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet								
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet								
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet								
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet								
Surrogate: 13C4-PFBA	*9.50*		µg/kg wet	9.923		95.7		10-130			
Surrogate: 13C5-PFPeA	*5.46*		µg/kg wet	4.961		110		35-150			
Surrogate: 13C5-PFHxA	*2.29*		µg/kg wet	2.481		92.3		55-150			
Surrogate: 13C4-PFHpA	*2.30*		µg/kg wet	2.481		92.7		55-150			
Surrogate: 13C8-PFOA	*2.36*		µg/kg wet	2.481		95.2		60-140			
Surrogate: 13C9-PFNA	*1.18*		µg/kg wet	1.240		94.9		55-140			
Surrogate: 13C6-PFDA	*1.21*		µg/kg wet	1.240		97.8		50-140			
Surrogate: 13C7-PFUnA	*1.27*		µg/kg wet	1.240		102		30-140			
Surrogate: 13C2-PFDoA	*1.09*		µg/kg wet	1.240		87.6		10-150			
Surrogate: 13C2-PFTeDA	*0.750*		µg/kg wet	1.240		60.4		10-130			
Surrogate: 13C3-PFBS	*2.41*		µg/kg wet	2.481		97.3		55-150			
Surrogate: 13C3-PFHxS	*2.49*		µg/kg wet	2.481		100		55-150			
Surrogate: 13C8-PFOS	*2.37*		µg/kg wet	2.481		95.6		45-140			
Surrogate: 13C2-4:2FTS	*4.69*		µg/kg wet	4.961		94.5		60-200			
Surrogate: 13C2-6:2FTS	*4.65*		µg/kg wet	4.961		93.7		60-200			
Surrogate: 13C2-8:2FTS	*4.63*		µg/kg wet	4.961		93.3		50-200			
Surrogate: 13C8-PFOSA	*2.21*		µg/kg wet	2.481		89.2		30-130			
Surrogate: D3-NMeFOSA	*0.0218*		µg/kg wet	2.481		**0.878**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.00258*		µg/kg wet	2.481		**0.104**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*4.75*		µg/kg wet	4.961		95.7		45-200			
Surrogate: D5-NEtFOSAA	*4.74*		µg/kg wet	4.961		95.4		10-200			
Surrogate: D7-NMeFOSE	*2.64*		µg/kg wet	24.81		10.6		10-150			
Surrogate: D9-NEtFOSE	*1.38*		µg/kg wet	24.81		**5.58**	*	10-150			PF-17C
Surrogate: 13C3-HFPO-DA	*8.89*		µg/kg wet	9.923		89.6		25-160			
LCS (B389424-BS1)				Prepared: 10/16/24 Analyzed: 10/17/24							
Perfluorobutanoic acid (PFBA)	9.84	0.78	µg/kg wet	9.306		106		58-148			
Perfluoropentanoic acid (PFPeA)	5.00	0.39	µg/kg wet	4.653		108		54-152			
Perfluorohexanoic acid (PFHxA)	2.60	0.19	µg/kg wet	2.326		112		55-152			
Perfluoroheptanoic acid (PFHpA)	2.43	0.19	µg/kg wet	2.326		104		54-154			
Perfluorooctanoic acid (PFOA)	2.31	0.19	µg/kg wet	2.326		99.1		52-161			
Perfluorononanoic acid (PFNA)	2.41	0.19	µg/kg wet	2.326		103		59-149			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633										
LCS (B389424-BS1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorodecanoic acid (PFDA)	2.40	0.19	µg/kg wet	2.326		103	52-147			
Perfluoroundecanoic acid (PFUnA)	2.35	0.19	µg/kg wet	2.326		101	48-159			
Perfluorododecanoic acid (PFDoA)	2.40	0.19	µg/kg wet	2.326		103	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.50	0.19	µg/kg wet	2.326		108	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.41	0.19	µg/kg wet	2.326		104	47-161			
Perfluorobutanesulfonic acid (PFBS)	2.06	0.19	µg/kg wet	2.064		99.7	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.24	0.19	µg/kg wet	2.189		102	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.94	0.19	µg/kg wet	2.126		91.5	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.20	0.19	µg/kg wet	2.217		99.1	55-152			
Perfluorooctanesulfonic acid (PFOS)	2.17	0.19	µg/kg wet	2.159		100	58-149			
Perfluorononanesulfonic acid (PFNS)	2.22	0.19	µg/kg wet	2.238		99.3	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.15	0.19	µg/kg wet	2.245		95.9	51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.04	0.19	µg/kg wet	2.257		90.6	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.12	0.78	µg/kg wet	8.724		105	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.53	0.78	µg/kg wet	8.841		108	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.95	0.78	µg/kg wet	8.934		100	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.32	0.19	µg/kg wet	2.326		99.6	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.40	0.19	µg/kg wet	2.326		103	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.65	0.19	µg/kg wet	2.326		114	65-139			
N-MeFOSAA (NMeFOSAA)	2.31	0.19	µg/kg wet	2.326		99.3	58-144			
N-EtFOSAA (NEtFOSAA)	2.23	0.19	µg/kg wet	2.326		95.6	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	22.8	1.9	µg/kg wet	23.26		98.0	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.9	1.9	µg/kg wet	23.26		98.6	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.18	0.78	µg/kg wet	9.306		98.6	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.32	0.78	µg/kg wet	8.794		106	68-146			
9Cl-PF3ONS (F53B Minor)	9.03	0.78	µg/kg wet	8.701		104	56-156			
11Cl-PF3OUdS (F53B Major)	8.63	0.78	µg/kg wet	8.794		98.1	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	18.0	1.9	µg/kg wet	23.26		77.2	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	117	9.7	µg/kg wet	116.3		101	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	108	9.7	µg/kg wet	116.3		93.1	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.77	0.39	µg/kg wet	4.141		115	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.32	0.39	µg/kg wet	4.653		92.8	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.45	0.39	µg/kg wet	4.653		95.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.75	0.39	µg/kg wet	4.653		102	48-161			
Surrogate: 13C4-PFBA	*6.75*		µg/kg wet	9.694		69.6	10-130			
Surrogate: 13C5-PFPeA	*3.88*		µg/kg wet	4.847		80.0	35-150			
Surrogate: 13C5-PFHxA	*1.59*		µg/kg wet	2.423		65.4	55-150			
Surrogate: 13C4-PFHpA	*1.56*		µg/kg wet	2.423		64.5	55-150			
Surrogate: 13C8-PFOA	*1.67*		µg/kg wet	2.423		68.9	60-140			
Surrogate: 13C9-PFNA	*0.851*		µg/kg wet	1.212		70.2	55-140			
Surrogate: 13C6-PFDA	*0.832*		µg/kg wet	1.212		68.6	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633										
LCS (B389424-BS1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Surrogate: 13C7-PFUnA	*0.834*		µg/kg wet	1.212		68.8	30-140			
Surrogate: 13C2-PFDoA	*0.767*		µg/kg wet	1.212		63.3	10-150			
Surrogate: 13C2-PFTeDA	*0.681*		µg/kg wet	1.212		56.2	10-130			
Surrogate: 13C3-PFBS	*1.62*		µg/kg wet	2.423		66.9	55-150			
Surrogate: 13C3-PFHxS	*1.71*		µg/kg wet	2.423		70.4	55-150			
Surrogate: 13C8-PFOS	*1.69*		µg/kg wet	2.423		69.6	45-140			
Surrogate: 13C2-4:2FTS	*3.35*		µg/kg wet	4.847		69.2	60-200			
Surrogate: 13C2-6:2FTS	*3.37*		µg/kg wet	4.847		69.5	60-200			
Surrogate: 13C2-8:2FTS	*3.22*		µg/kg wet	4.847		66.3	50-200			
Surrogate: 13C8-PFOSA	*1.47*		µg/kg wet	2.423		60.8	30-130			
Surrogate: D3-NMeFOSA	*0.732*		µg/kg wet	2.423		30.2	15-130			
Surrogate: D5-NEtFOSA	*0.457*		µg/kg wet	2.423		18.8	10-130			
Surrogate: D3-NMeFOSAA	*3.27*		µg/kg wet	4.847		67.5	45-200			
Surrogate: D5-NEtFOSAA	*3.45*		µg/kg wet	4.847		71.2	10-200			
Surrogate: D7-NMeFOSE	*10.9*		µg/kg wet	24.23		45.0	10-150			
Surrogate: D9-NEtFOSE	*10.1*		µg/kg wet	24.23		41.8	10-150			
Surrogate: 13C3-HFPO-DA	*6.34*		µg/kg wet	9.694		65.4	25-160			
MRL Check (B389424-MRL1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorobutanoic acid (PFBA)	0.820	0.77	µg/kg wet	0.7723		106	44-157			
Perfluoropentanoic acid (PFPeA)	0.436	0.39	µg/kg wet	0.3862		113	57-148			
Perfluorohexanoic acid (PFHxA)	0.225	0.19	µg/kg wet	0.1931		116	62-149			
Perfluoroheptanoic acid (PFHpA)	0.208	0.19	µg/kg wet	0.1931		108	56-150			
Perfluorooctanoic acid (PFOA)	0.191	0.19	µg/kg wet	0.1931		98.7	57-161			
Perfluorononanoic acid (PFNA)	0.217	0.19	µg/kg wet	0.1931		112	53-157			
Perfluorodecanoic acid (PFDA)	0.210	0.19	µg/kg wet	0.1931		109	43-158			
Perfluoroundecanoic acid (PFUnA)	0.182	0.19	µg/kg wet	0.1931		94.2	50-155			
Perfluorododecanoic acid (PFDoA)	0.204	0.19	µg/kg wet	0.1931		106	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.188	0.19	µg/kg wet	0.1931		97.4	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.211	0.19	µg/kg wet	0.1931		109	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.182	0.19	µg/kg wet	0.1713		106	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.205	0.19	µg/kg wet	0.1817		113	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.185	0.19	µg/kg wet	0.1765		105	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.194	0.19	µg/kg wet	0.1840		105	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.214	0.19	µg/kg wet	0.1792		119	43-162			
Perfluorononanesulfonic acid (PFNS)	0.201	0.19	µg/kg wet	0.1858		108	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.174	0.19	µg/kg wet	0.1863		93.6	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.153	0.19	µg/kg wet	0.1873		81.5	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.783	0.77	µg/kg wet	0.7241		108	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.879	0.77	µg/kg wet	0.7337		120	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.778	0.77	µg/kg wet	0.7415		105	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.206	0.19	µg/kg wet	0.1931		107	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.233	0.19	µg/kg wet	0.1931		121	54-155			PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.220	0.19	µg/kg wet	0.1931		114	49-156			PF-17C
N-MeFOSAA (NMeFOSAA)	0.226	0.19	µg/kg wet	0.1931		117	32-160			
N-EtFOSAA (NEtFOSAA)	0.181	0.19	µg/kg wet	0.1931		93.8	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	2.07	1.9	µg/kg wet	1.931		107	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	2.07	1.9	µg/kg wet	1.931		107	60-147			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633											
MRL Check (B389424-MRL1)				Prepared: 10/16/24 Analyzed: 10/17/24							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.729	0.77	µg/kg wet	0.7723		94.4		58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.720	0.77	µg/kg wet	0.7299		98.6		61-148			
9Cl-PF3ONS (F53B Minor)	0.700	0.77	µg/kg wet	0.7221		97.0		44-167			
11Cl-PF3OUdS (F53B Major)	0.628	0.77	µg/kg wet	0.7299		86.1		36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.44	1.9	µg/kg wet	1.931		74.6		32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	8.09	9.7	µg/kg wet	9.654		83.8		39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	8.02	9.7	µg/kg wet	9.654		83.0		36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.352	0.39	µg/kg wet	0.3437		102		56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.320	0.39	µg/kg wet	0.3862		83.0		48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.335	0.39	µg/kg wet	0.3862		86.8		49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.396	0.39	µg/kg wet	0.3862		102		47-160			
Surrogate: 13C4-PFBA	*7.92*		µg/kg wet	9.654		82.0		10-130			
Surrogate: 13C5-PFPeA	*4.54*		µg/kg wet	4.827		94.0		35-150			
Surrogate: 13C5-PFHxA	*1.88*		µg/kg wet	2.414		78.0		55-150			
Surrogate: 13C4-PFHpA	*1.87*		µg/kg wet	2.414		77.4		55-150			
Surrogate: 13C8-PFOA	*2.02*		µg/kg wet	2.414		83.6		60-140			
Surrogate: 13C9-PFNA	*0.979*		µg/kg wet	1.207		81.1		55-140			
Surrogate: 13C6-PFDA	*0.957*		µg/kg wet	1.207		79.3		50-140			
Surrogate: 13C7-PFUnA	*0.990*		µg/kg wet	1.207		82.1		30-140			
Surrogate: 13C2-PFDoA	*0.870*		µg/kg wet	1.207		72.1		10-150			
Surrogate: 13C2-PFTeDA	*0.718*		µg/kg wet	1.207		59.5		10-130			
Surrogate: 13C3-PFBS	*1.89*		µg/kg wet	2.414		78.2		55-150			
Surrogate: 13C3-PFHxS	*2.01*		µg/kg wet	2.414		83.1		55-150			
Surrogate: 13C8-PFOS	*2.00*		µg/kg wet	2.414		82.9		45-140			
Surrogate: 13C2-4:2FTS	*3.90*		µg/kg wet	4.827		80.8		60-200			
Surrogate: 13C2-6:2FTS	*3.77*		µg/kg wet	4.827		78.0		60-200			
Surrogate: 13C2-8:2FTS	*3.76*		µg/kg wet	4.827		77.9		50-200			
Surrogate: 13C8-PFOSA	*1.84*		µg/kg wet	2.414		76.3		30-130			
Surrogate: D3-NMeFOSA	*0.348*		µg/kg wet	2.414		**14.4**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.107*		µg/kg wet	2.414		**4.41**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*3.91*		µg/kg wet	4.827		80.9		45-200			
Surrogate: D5-NEtFOSAA	*4.08*		µg/kg wet	4.827		84.6		10-200			
Surrogate: D7-NMeFOSE	*10.3*		µg/kg wet	24.14		42.5		10-150			
Surrogate: D9-NEtFOSE	*8.60*		µg/kg wet	24.14		35.6		10-150			
Surrogate: 13C3-HFPO-DA	*7.27*		µg/kg wet	9.654		75.3		25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388407 - Draft Method 1633										
Blank (B388407-BLK1)				Prepared & Analyzed: 10/07/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B388407-BS1)				Prepared & Analyzed: 10/07/24						
Total Suspended Solids	185	5.0	mg/L	200.0		92.5	51.5-130			
Batch B388546 - Draft Method 1633										
Blank (B388546-BLK1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B388546-BS1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	208	5.0	mg/L	200.0		104	51.5-130			
Batch B388700 - % Solids										
Duplicate (B388700-DUP1)	**Source: 24J0749-07**			Prepared & Analyzed: 10/08/24						
% Solids	80.8		% Wt		84.7			4.71	10	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-17C	Extracted internal standard is outside of control limits. Analyte is a known difficult compound.
S-29	Extracted Internal Standard is outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV
Perfluorotetradecanoic acid (PFTeDA)	NH-P,PA,WV
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,WV
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,WV
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,WV
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,WV
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV
N-EtFOSAA (NEtFOSAA)	NH-P,PA,WV
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,WV
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,WV
9Cl-PF3ONS (F53B Minor)	NH-P,PA,WV
11Cl-PF3OUdS (F53B Major)	NH-P,PA,WV
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,WV
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,PA,WV
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J0749

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Company Name: Michael Baker Intl
Address: 100 Airside Dr
Phone: 412-269-6300
Project Name:
Project Location: Saegertown
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1	GWG-21	10/1/24	1250	G	GW				3			X
2	GWG-22	10/1/24	1550						3			
3	GWG-11	10/2/24	1335						3			
4	GWG-10		1415						3			
5	GWG-10Dup		1420						3			
6	GWG-23		1640						3			
L	GWG-23MS		1640						3			
L	GWG-23MSD		1640		↓				3			
7	SB-10-1		1300		S				1			
8	SB-11-22	↓	1305	↓	S				1			↓

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
[signature]	10/3/24 1330
Received by: (signature) Malka Pace	10/3 1335
Relinquished by: (signature) Malka Pace IS	10/3 1500
Received by: (signature) BZ	10-3 16:14
Relinquished by: (signature) Russell B. Bixby	10-3 16:15
Received by: (signature)	10-3 2330
Relinquished by: (signature)	10-4 0150
Received by: (signature) 2.5	10/4/24 0130

Client Comments:

Data Deliverable Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 2 of 2

Company Name: Michael Baker Int'l
Address: 100 Airside Dr
Phone: 412-269-6300
Project Name:
Project Location: Saegertown
Project Number: 189463
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Rush - Std. Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush - Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Sample
○ Field Filtered
○ Lab to Filter

Orthophosphate Sample
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP / GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
9	SB-10-1	10/2/24	1230	G	S				1			X
10	SB-10-19	↓	1235	↓	S				1			1
11	SB-10-19 Dup	↓	1237	↓	S				1			↓
12	EB-01	10/3/24	0900	↓	W				3			↓
13	GWG-24	10/3/24	1245	↓	GW				3			↓

Relinquished by: (signature) — Date/Time: 10/3/24 1330
Received by: (signature) — Date/Time: 10/3/24 1355
Relinquished by: (signature) — Date/Time: 10/3 1545
Received by: (signature) — Date/Time: 10-3-24 16:45
Relinquished by: (signature) — Date/Time: 10-3 16:45
Received by: (signature) — Date/Time: 10/4 0900
Relinquished by: (signature) — Date/Time: 10/4 0830
Received by: (signature) — Date/Time:

Client Comments:

Data Reporting Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project MA

MCP/RCP Required MA

Deliverable Package Requirement MA

Location Shippensburg

PWSID# (When Applicable) MA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time LA 10/14/24 613

Back-Sheet By / Date / Time LA 10/14/24 1311

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp ☑ < 6° C Actual Temperature 2.5

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☐	☐
Custody Seal: DATE TIME	☐	☐
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☑*
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL		2					2						2	2							
Sulfuric																						
Unpreserved	250mL								1				1									
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				
125 ml Plastic			1				1	3						1	1							

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October 23, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189463
Laboratory Work Order Number: 24J0997

Enclosed are results of analyses for samples as received by the laboratory on October 5, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 10/23/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189463

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J0997

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWG-34	24J0997-01	Ground Water		Draft Method 1633	
GWG-12	24J0997-02	Ground Water		Draft Method 1633	
GWG-13	24J0997-03	Ground Water		Draft Method 1633	
EB-02	24J0997-04	Equipment Blank Water		Draft Method 1633	
GWG-17	24J0997-05	Ground Water		Draft Method 1633	
GWG-16	24J0997-06	Ground Water		Draft Method 1633	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Draft Method 1633

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

N-MeFOSAA (NMeFOSAA)
B389519-BS1

PF-18

Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.

Analyte & Samples(s) Qualified:

D7-NMeFOSE
B389519-MS1, B389519-MSD1

D9-NEtFOSE
B389519-MS1, B389519-MSD1

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
B389519-MS1, B389519-MSD1

N-methylperfluorooctanesulfonamidoethanol(NMeF
B389519-MS1, B389519-MSD1

PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
24J0997-01[GWG-34]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

D3-NMeFOSAA
S112656-CCV3

N-MeFOSAA (NMeFOSAA)
S112656-CCV3

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
24J0997-01[GWG-34], 24J0997-05[GWG-17], 24J0997-06[GWG-16], B389519-BS1, B389519-MRL1, B389519-MS1, B389519-MSD1, S112656-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
24J0997-02[GWG-12], 24J0997-03[GWG-13], 24J0997-04[EB-02], B389519-BLK1

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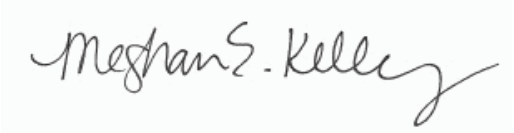
The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-34 | Sampled: 10/3/2024 15:15

Sample ID: 24J0997-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	4.7	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoropentanoic acid (PFPeA)	9.7	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorohexanoic acid (PFHxA)	17	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoroheptanoic acid (PFHpA)	4.6	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorooctanoic acid (PFOA)	11	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorononanoic acid (PFNA)	21	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorobutanesulfonic acid (PFBS)	9.9	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoropentanesulfonic acid (PFPeS)	11	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorohexanesulfonic acid (PFHxS)	120	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoroheptanesulfonic acid (PFHpS)	7.2	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorooctanesulfonic acid (PFOS)	190	1.0	ng/L	1	V-06, PF-23	Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-34 | Sampled: 10/3/2024 15:15

Sample ID: 24J0997-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 22:52	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.6	10-130		10/22/24 22:52
13C5-PFPeA	67.9	35-150		10/22/24 22:52
13C5-PFHxA	62.8	55-150		10/22/24 22:52
13C4-PFHpA	63.7	55-150		10/22/24 22:52
13C8-PFOA	66.8	60-140		10/22/24 22:52
13C9-PFNA	66.5	55-140		10/22/24 22:52
13C6-PFDA	67.6	50-140		10/22/24 22:52
13C7-PFUnA	58.9	30-140		10/22/24 22:52
13C2-PFDoA	48.8	10-150		10/22/24 22:52
13C2-PFTeDA	46.7	10-130		10/22/24 22:52
13C3-PFBS	71.1	55-150		10/22/24 22:52
13C3-PFHxS	67.5	55-150		10/22/24 22:52
13C8-PFOS	70.1	45-140		10/22/24 22:52
13C2-4:2FTS	81.3	60-200		10/22/24 22:52
13C2-6:2FTS	74.2	60-200		10/22/24 22:52
13C2-8:2FTS	58.5	50-200		10/22/24 22:52
13C8-PFOSA	64.2	30-130		10/22/24 22:52
D3-NMeFOSA	42.2	15-130		10/22/24 22:52
D5-NEtFOSA	42.0	10-130		10/22/24 22:52
D3-NMeFOSAA	68.5	45-200		10/22/24 22:52
D5-NEtFOSAA	59.9	10-200		10/22/24 22:52
D7-NMeFOSE	46.8	10-150		10/22/24 22:52
D9-NEtFOSE	42.6	10-150		10/22/24 22:52
13C3-HFPO-DA	69.7	25-160		10/22/24 22:52

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-34 | Sampled: 10/3/2024 15:15

Sample ID: 24J0997-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	420	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-12 | Sampled: 10/3/2024 17:00

Sample ID: 24J0997-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorohexanoic acid (PFHxA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorooctanoic acid (PFOA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorononanoic acid (PFNA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorodecanoic acid (PFDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorododecanoic acid (PFDoA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.96	ng/L	1	V-20	Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-MeFOSAA (NMeFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-EtFOSAA (NEtFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
9Cl-PF3ONS (F53B Minor)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
11Cl-PF3OUdS (F53B Major)	ND	3.8	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.6	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-12 | Sampled: 10/3/2024 17:00

Sample ID: 24J0997-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:07	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	85.8	10-130		10/22/24 23:07
13C5-PFPeA	74.3	35-150		10/22/24 23:07
13C5-PFHxA	68.9	55-150		10/22/24 23:07
13C4-PFHpA	67.4	55-150		10/22/24 23:07
13C8-PFOA	71.6	60-140		10/22/24 23:07
13C9-PFNA	71.3	55-140		10/22/24 23:07
13C6-PFDA	72.4	50-140		10/22/24 23:07
13C7-PFUnA	64.7	30-140		10/22/24 23:07
13C2-PFDoA	56.3	10-150		10/22/24 23:07
13C2-PFTeDA	53.8	10-130		10/22/24 23:07
13C3-PFBS	76.4	55-150		10/22/24 23:07
13C3-PFHxS	69.3	55-150		10/22/24 23:07
13C8-PFOS	73.6	45-140		10/22/24 23:07
13C2-4:2FTS	82.5	60-200		10/22/24 23:07
13C2-6:2FTS	76.5	60-200		10/22/24 23:07
13C2-8:2FTS	68.5	50-200		10/22/24 23:07
13C8-PFOSA	66.5	30-130		10/22/24 23:07
D3-NMeFOSA	49.8	15-130		10/22/24 23:07
D5-NEtFOSA	48.6	10-130		10/22/24 23:07
D3-NMeFOSAA	73.7	45-200		10/22/24 23:07
D5-NEtFOSAA	72.6	10-200		10/22/24 23:07
D7-NMeFOSE	55.9	10-150		10/22/24 23:07
D9-NEtFOSE	51.7	10-150		10/22/24 23:07
13C3-HFPO-DA	75.8	25-160		10/22/24 23:07

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-12 | Sampled: 10/3/2024 17:00

Sample ID: 24J0997-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	260	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-13 | Sampled: 10/3/2024 18:50

Sample ID: 24J0997-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoropentanoic acid (PFPeA)	13	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorohexanoic acid (PFHxA)	3.6	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorooctanoic acid (PFOA)	2.4	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1	V-20	Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-13 | Sampled: 10/3/2024 18:50

Sample ID: 24J0997-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/22/24 23:23	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	76.1	10-130		10/22/24 23:23
13C5-PFPeA	68.8	35-150		10/22/24 23:23
13C5-PFHxA	66.8	55-150		10/22/24 23:23
13C4-PFHpA	65.8	55-150		10/22/24 23:23
13C8-PFOA	65.3	60-140		10/22/24 23:23
13C9-PFNA	67.9	55-140		10/22/24 23:23
13C6-PFDA	66.8	50-140		10/22/24 23:23
13C7-PFUnA	57.3	30-140		10/22/24 23:23
13C2-PFDoA	49.3	10-150		10/22/24 23:23
13C2-PFTeDA	46.1	10-130		10/22/24 23:23
13C3-PFBS	74.5	55-150		10/22/24 23:23
13C3-PFHxS	70.9	55-150		10/22/24 23:23
13C8-PFOS	67.0	45-140		10/22/24 23:23
13C2-4:2FTS	82.1	60-200		10/22/24 23:23
13C2-6:2FTS	71.6	60-200		10/22/24 23:23
13C2-8:2FTS	66.4	50-200		10/22/24 23:23
13C8-PFOSA	61.3	30-130		10/22/24 23:23
D3-NMeFOSA	41.8	15-130		10/22/24 23:23
D5-NEtFOSA	42.5	10-130		10/22/24 23:23
D3-NMeFOSAA	66.0	45-200		10/22/24 23:23
D5-NEtFOSAA	57.3	10-200		10/22/24 23:23
D7-NMeFOSE	46.3	10-150		10/22/24 23:23
D9-NEtFOSE	42.5	10-150		10/22/24 23:23
13C3-HFPO-DA	72.6	25-160		10/22/24 23:23

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-13 | Sampled: 10/3/2024 18:50

Sample ID: 24J0997-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	2600	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: EB-02 | Sampled: 10/4/2024 08:30

Sample ID: 24J0997-04

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L	1	V-20	Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: EB-02 | Sampled: 10/4/2024 08:30

Sample ID: 24J0997-04

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:10	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.5	10-130		10/23/24 0:10
13C5-PFPeA	76.2	35-150		10/23/24 0:10
13C5-PFHxA	72.7	55-150		10/23/24 0:10
13C4-PFHpA	72.2	55-150		10/23/24 0:10
13C8-PFOA	76.2	60-140		10/23/24 0:10
13C9-PFNA	73.3	55-140		10/23/24 0:10
13C6-PFDA	78.2	50-140		10/23/24 0:10
13C7-PFUnA	78.1	30-140		10/23/24 0:10
13C2-PFDoA	67.4	10-150		10/23/24 0:10
13C2-PFTeDA	69.7	10-130		10/23/24 0:10
13C3-PFBS	84.2	55-150		10/23/24 0:10
13C3-PFHxS	78.2	55-150		10/23/24 0:10
13C8-PFOS	77.8	45-140		10/23/24 0:10
13C2-4:2FTS	88.1	60-200		10/23/24 0:10
13C2-6:2FTS	78.9	60-200		10/23/24 0:10
13C2-8:2FTS	76.5	50-200		10/23/24 0:10
13C8-PFOSA	67.8	30-130		10/23/24 0:10
D3-NMeFOSA	53.1	15-130		10/23/24 0:10
D5-NEtFOSA	52.5	10-130		10/23/24 0:10
D3-NMeFOSAA	80.7	45-200		10/23/24 0:10
D5-NEtFOSAA	79.6	10-200		10/23/24 0:10
D7-NMeFOSE	61.4	10-150		10/23/24 0:10
D9-NEtFOSE	57.8	10-150		10/23/24 0:10
13C3-HFPO-DA	77.9	25-160		10/23/24 0:10

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: EB-02 | Sampled: 10/4/2024 08:30

Sample ID: 24J0997-04

Sample Matrix: Equipment Blank Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-17 | Sampled: 10/4/2024 10:10

Sample ID: 24J0997-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorohexanoic acid (PFHxA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorooctanesulfonic acid (PFOS)	3.1	1.0	ng/L	1	V-06	Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-17 | Sampled: 10/4/2024 10:10

Sample ID: 24J0997-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:26	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	76.8	10-130		10/23/24 0:26
13C5-PFPeA	79.9	35-150		10/23/24 0:26
13C5-PFHxA	76.0	55-150		10/23/24 0:26
13C4-PFHpA	76.3	55-150		10/23/24 0:26
13C8-PFOA	78.5	60-140		10/23/24 0:26
13C9-PFNA	75.7	55-140		10/23/24 0:26
13C6-PFDA	76.7	50-140		10/23/24 0:26
13C7-PFUnA	68.6	30-140		10/23/24 0:26
13C2-PFDoA	51.4	10-150		10/23/24 0:26
13C2-PFTeDA	28.1	10-130		10/23/24 0:26
13C3-PFBS	85.6	55-150		10/23/24 0:26
13C3-PFHxS	79.3	55-150		10/23/24 0:26
13C8-PFOS	78.8	45-140		10/23/24 0:26
13C2-4:2FTS	86.7	60-200		10/23/24 0:26
13C2-6:2FTS	79.8	60-200		10/23/24 0:26
13C2-8:2FTS	76.7	50-200		10/23/24 0:26
13C8-PFOSA	72.1	30-130		10/23/24 0:26
D3-NMeFOSA	41.3	15-130		10/23/24 0:26
D5-NEtFOSA	37.6	10-130		10/23/24 0:26
D3-NMeFOSAA	75.0	45-200		10/23/24 0:26
D5-NEtFOSAA	71.1	10-200		10/23/24 0:26
D7-NMeFOSE	39.0	10-150		10/23/24 0:26
D9-NEtFOSE	32.8	10-150		10/23/24 0:26
13C3-HFPO-DA	83.5	25-160		10/23/24 0:26

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-17 | Sampled: 10/4/2024 10:10

Sample ID: 24J0997-05

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	3700	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-16 | Sampled: 10/4/2024 11:30

Sample ID: 24J0997-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorohexanoic acid (PFHxA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorooctanoic acid (PFOA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorooctanesulfonic acid (PFOS)	3.1	0.98	ng/L	1	V-06	Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-16 | Sampled: 10/4/2024 11:30

Sample ID: 24J0997-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/17/24	10/23/24 0:42	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	88.3	10-130		10/23/24 0:42
13C5-PFPeA	79.9	35-150		10/23/24 0:42
13C5-PFHxA	76.5	55-150		10/23/24 0:42
13C4-PFHpA	77.6	55-150		10/23/24 0:42
13C8-PFOA	78.0	60-140		10/23/24 0:42
13C9-PFNA	81.6	55-140		10/23/24 0:42
13C6-PFDA	79.4	50-140		10/23/24 0:42
13C7-PFUnA	73.7	30-140		10/23/24 0:42
13C2-PFDoA	67.8	10-150		10/23/24 0:42
13C2-PFTeDA	67.1	10-130		10/23/24 0:42
13C3-PFBS	84.0	55-150		10/23/24 0:42
13C3-PFHxS	78.8	55-150		10/23/24 0:42
13C8-PFOS	74.4	45-140		10/23/24 0:42
13C2-4:2FTS	87.3	60-200		10/23/24 0:42
13C2-6:2FTS	83.2	60-200		10/23/24 0:42
13C2-8:2FTS	79.1	50-200		10/23/24 0:42
13C8-PFOSA	66.9	30-130		10/23/24 0:42
D3-NMeFOSA	54.5	15-130		10/23/24 0:42
D5-NEtFOSA	56.2	10-130		10/23/24 0:42
D3-NMeFOSAA	77.0	45-200		10/23/24 0:42
D5-NEtFOSAA	75.2	10-200		10/23/24 0:42
D7-NMeFOSE	58.7	10-150		10/23/24 0:42
D9-NEtFOSE	55.3	10-150		10/23/24 0:42
13C3-HFPO-DA	84.8	25-160		10/23/24 0:42

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J0997

Date Received: 10/5/2024

Field Sample #: GWG-16 | Sampled: 10/4/2024 11:30

Sample ID: 24J0997-06

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	580	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J0997-01 [GWG-34]	B388547	50.0	10/08/24
24J0997-02 [GWG-12]	B388547	50.0	10/08/24
24J0997-03 [GWG-13]	B388547	50.0	10/08/24
24J0997-04 [EB-02]	B388547	50.0	10/08/24
24J0997-05 [GWG-17]	B388547	50.0	10/08/24
24J0997-06 [GWG-16]	B388547	50.0	10/08/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/8/2024 per NO PREP in Batch B388547**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J0997-01 [GWG-34]	B389519	491	5.00	10/17/24
24J0997-02 [GWG-12]	B389519	521	5.00	10/17/24
24J0997-03 [GWG-13]	B389519	501	5.00	10/17/24
24J0997-04 [EB-02]	B389519	507	5.00	10/17/24
24J0997-05 [GWG-17]	B389519	499	5.00	10/17/24
24J0997-06 [GWG-16]	B389519	512	5.00	10/17/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633										
Blank (B389519-BLK1)				Prepared: 10/17/24 Analyzed: 10/22/24						
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L							V-20
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*86.7*		ng/L	98.86		87.7	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633										
Blank (B389519-BLK1)				Prepared: 10/17/24 Analyzed: 10/22/24						
Surrogate: 13C5-PFPeA	*39.1*		ng/L	49.43		79.0	35-150			
Surrogate: 13C5-PFHxA	*18.3*		ng/L	24.71		74.1	55-150			
Surrogate: 13C4-PFHpA	*18.4*		ng/L	24.71		74.6	55-150			
Surrogate: 13C8-PFOA	*18.5*		ng/L	24.71		74.7	60-140			
Surrogate: 13C9-PFNA	*9.38*		ng/L	12.36		75.9	55-140			
Surrogate: 13C6-PFDA	*9.56*		ng/L	12.36		77.4	50-140			
Surrogate: 13C7-PFUnA	*9.17*		ng/L	12.36		74.2	30-140			
Surrogate: 13C2-PFDoA	*8.47*		ng/L	12.36		68.5	10-150			
Surrogate: 13C2-PFTeDA	*8.71*		ng/L	12.36		70.5	10-130			
Surrogate: 13C3-PFBS	*20.4*		ng/L	24.71		82.7	55-150			
Surrogate: 13C3-PFHxS	*19.2*		ng/L	24.71		77.6	55-150			
Surrogate: 13C8-PFOS	*19.1*		ng/L	24.71		77.4	45-140			
Surrogate: 13C2-4:2FTS	*42.3*		ng/L	49.43		85.7	60-200			
Surrogate: 13C2-6:2FTS	*37.5*		ng/L	49.43		75.9	60-200			
Surrogate: 13C2-8:2FTS	*34.9*		ng/L	49.43		70.6	50-200			
Surrogate: 13C8-PFOSA	*17.0*		ng/L	24.71		68.8	30-130			
Surrogate: D3-NMeFOSA	*11.7*		ng/L	24.71		47.3	15-130			
Surrogate: D5-NEtFOSA	*12.3*		ng/L	24.71		49.6	10-130			
Surrogate: D3-NMeFOSAA	*36.8*		ng/L	49.43		74.5	45-200			
Surrogate: D5-NEtFOSAA	*37.4*		ng/L	49.43		75.6	10-200			
Surrogate: D7-NMeFOSE	*144*		ng/L	247.1		58.2	10-150			
Surrogate: D9-NEtFOSE	*134*		ng/L	247.1		54.0	10-150			
Surrogate: 13C3-HFPO-DA	*78.4*		ng/L	98.86		79.4	25-160			
LCS (B389519-BS1)				Prepared: 10/17/24 Analyzed: 10/22/24						
Perfluorobutanoic acid (PFBA)	112	3.9	ng/L	94.69		118	58-148			
Perfluoropentanoic acid (PFPeA)	55.0	2.0	ng/L	47.35		116	54-152			
Perfluorohexanoic acid (PFHxA)	27.9	0.99	ng/L	23.67		118	55-152			
Perfluoroheptanoic acid (PFHpA)	26.6	0.99	ng/L	23.67		113	54-154			
Perfluorooctanoic acid (PFOA)	28.0	0.99	ng/L	23.67		118	52-161			
Perfluorononanoic acid (PFNA)	27.5	0.99	ng/L	23.67		116	59-149			
Perfluorodecanoic acid (PFDA)	27.0	0.99	ng/L	23.67		114	52-147			
Perfluoroundecanoic acid (PFUnA)	26.8	0.99	ng/L	23.67		113	48-159			
Perfluorododecanoic acid (PFDoA)	27.8	0.99	ng/L	23.67		118	64-142			
Perfluorotridecanoic acid (PFTrDA)	25.7	0.99	ng/L	23.67		108	49-148			
Perfluorotetradecanoic acid (PFTeDA)	28.2	0.99	ng/L	23.67		119	47-161			
Perfluorobutanesulfonic acid (PFBS)	24.1	0.99	ng/L	21.00		115	62-144			
Perfluoropentanesulfonic acid (PFPeS)	26.1	0.99	ng/L	22.28		117	59-151			
Perfluorohexanesulfonic acid (PFHxS)	29.0	0.99	ng/L	21.64		134	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	28.0	0.99	ng/L	22.56		124	55-152			
Perfluorooctanesulfonic acid (PFOS)	32.6	0.99	ng/L	21.97		148	58-149			V-06
Perfluorononanesulfonic acid (PFNS)	25.5	0.99	ng/L	22.77		112	52-148			
Perfluorodecanesulfonic acid (PFDS)	25.4	0.99	ng/L	22.84		111	51-147			
Perfluorododecanesulfonic acid (PFDoS)	25.0	0.99	ng/L	22.96		109	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	111	3.9	ng/L	88.77		125	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	114	3.9	ng/L	89.96		127	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	119	3.9	ng/L	90.90		131	63-152			
Perfluorooctanesulfonamide (PFOSA)	26.8	0.99	ng/L	23.67		113	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	25.9	0.99	ng/L	23.67		109	63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633											
LCS (B389519-BS1)				Prepared: 10/17/24 Analyzed: 10/22/24							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.6	0.99	ng/L	23.67		108		65-139			
N-MeFOSAA (NMeFOSAA)	34.7	0.99	ng/L	23.67		**147**	*	58-144			L-01
N-EtFOSAA (NEtFOSAA)	30.9	0.99	ng/L	23.67		130		59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	260	9.9	ng/L	236.7		110		71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	268	9.9	ng/L	236.7		113		69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	100	3.9	ng/L	94.69		106		63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	90.2	3.9	ng/L	89.48		101		68-146			
9Cl-PF3ONS (F53B Minor)	82.8	3.9	ng/L	88.54		93.5		56-156			
11Cl-PF3OUdS (F53B Major)	84.5	3.9	ng/L	89.48		94.5		46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	239	9.9	ng/L	236.7		101		62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1140	49	ng/L	1184		96.3		63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1020	49	ng/L	1184		86.1		50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	49.1	2.0	ng/L	42.14		116		56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	51.9	2.0	ng/L	47.35		110		51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	54.0	2.0	ng/L	47.35		114		55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.4	2.0	ng/L	47.35		125		48-161			
Surrogate: 13C4-PFBA	*82.4*		ng/L	98.64		83.5		10-130			
Surrogate: 13C5-PFPeA	*36.3*		ng/L	49.32		73.6		35-150			
Surrogate: 13C5-PFHxA	*17.7*		ng/L	24.66		71.9		55-150			
Surrogate: 13C4-PFHpA	*17.4*		ng/L	24.66		70.5		55-150			
Surrogate: 13C8-PFOA	*16.4*		ng/L	24.66		66.3		60-140			
Surrogate: 13C9-PFNA	*9.00*		ng/L	12.33		73.0		55-140			
Surrogate: 13C6-PFDA	*8.81*		ng/L	12.33		71.5		50-140			
Surrogate: 13C7-PFUnA	*8.60*		ng/L	12.33		69.7		30-140			
Surrogate: 13C2-PFDoA	*8.42*		ng/L	12.33		68.3		10-150			
Surrogate: 13C2-PFTeDA	*8.17*		ng/L	12.33		66.3		10-130			
Surrogate: 13C3-PFBS	*18.6*		ng/L	24.66		75.4		55-150			
Surrogate: 13C3-PFHxS	*17.4*		ng/L	24.66		70.5		55-150			
Surrogate: 13C8-PFOS	*17.1*		ng/L	24.66		69.5		45-140			
Surrogate: 13C2-4:2FTS	*36.6*		ng/L	49.32		74.2		60-200			
Surrogate: 13C2-6:2FTS	*34.8*		ng/L	49.32		70.5		60-200			
Surrogate: 13C2-8:2FTS	*32.3*		ng/L	49.32		65.5		50-200			
Surrogate: 13C8-PFOSA	*16.5*		ng/L	24.66		66.8		30-130			
Surrogate: D3-NMeFOSA	*11.6*		ng/L	24.66		47.1		15-130			
Surrogate: D5-NEtFOSA	*11.8*		ng/L	24.66		47.9		10-130			
Surrogate: D3-NMeFOSAA	*37.3*		ng/L	49.32		75.5		45-200			
Surrogate: D5-NEtFOSAA	*35.5*		ng/L	49.32		71.9		10-200			
Surrogate: D7-NMeFOSE	*152*		ng/L	246.6		61.7		10-150			
Surrogate: D9-NEtFOSE	*140*		ng/L	246.6		57.0		10-150			
Surrogate: 13C3-HFPO-DA	*74.0*		ng/L	98.64		75.0		25-160			
MRL Check (B389519-MRL1)				Prepared: 10/17/24 Analyzed: 10/22/24							
Perfluorobutanoic acid (PFBA)	8.38	4.0	ng/L	7.927		106		44-157			
Perfluoropentanoic acid (PFPeA)	4.21	2.0	ng/L	3.964		106		57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633										
MRL Check (B389519-MRL1)				Prepared: 10/17/24 Analyzed: 10/22/24						
Perfluorohexanoic acid (PFHxA)	2.16	0.99	ng/L	1.982		109	62-149			
Perfluoroheptanoic acid (PFHpA)	2.04	0.99	ng/L	1.982		103	56-150			
Perfluorooctanoic acid (PFOA)	2.19	0.99	ng/L	1.982		111	57-161			
Perfluorononanoic acid (PFNA)	2.00	0.99	ng/L	1.982		101	53-157			
Perfluorodecanoic acid (PFDA)	2.13	0.99	ng/L	1.982		107	43-158			
Perfluoroundecanoic acid (PFUnA)	2.15	0.99	ng/L	1.982		109	50-155			
Perfluorododecanoic acid (PFDoA)	2.19	0.99	ng/L	1.982		110	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.92	0.99	ng/L	1.982		96.9	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.05	0.99	ng/L	1.982		104	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.93	0.99	ng/L	1.758		110	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.04	0.99	ng/L	1.865		109	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.48	0.99	ng/L	1.811		137	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.08	0.99	ng/L	1.889		110	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.81	0.99	ng/L	1.839		153	43-162			V-06
Perfluorononanesulfonic acid (PFNS)	2.09	0.99	ng/L	1.907		110	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.91	0.99	ng/L	1.912		100	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.02	0.99	ng/L	1.922		105	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.27	4.0	ng/L	7.432		111	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.47	4.0	ng/L	7.531		112	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	9.61	4.0	ng/L	7.610		126	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.10	0.99	ng/L	1.982		106	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.46	0.99	ng/L	1.982		124	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.22	0.99	ng/L	1.982		112	49-156			
N-MeFOSAA (NMeFOSAA)	2.66	0.99	ng/L	1.982		134	32-160			
N-EtFOSAA (NEtFOSAA)	2.51	0.99	ng/L	1.982		127	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	20.9	9.9	ng/L	19.82		105	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.1	9.9	ng/L	19.82		112	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.11	4.0	ng/L	7.927		102	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	6.96	4.0	ng/L	7.491		92.9	61-148			
9Cl-PF3ONS (F53B Minor)	6.35	4.0	ng/L	7.412		85.7	44-167			
11Cl-PF3OUdS (F53B Major)	6.21	4.0	ng/L	7.491		83.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	17.4	9.9	ng/L	19.82		88.0	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	83.6	50	ng/L	99.09		84.4	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	74.2	50	ng/L	99.09		74.9	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.75	2.0	ng/L	3.528		106	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.98	2.0	ng/L	3.964		100	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.01	2.0	ng/L	3.964		101	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.83	2.0	ng/L	3.964		122	47-160			
Surrogate: 13C4-PFBA	*78.5*		ng/L	99.09		79.3	10-130			
Surrogate: 13C5-PFPeA	*34.3*		ng/L	49.55		69.3	35-150			
Surrogate: 13C5-PFHxA	*16.3*		ng/L	24.77		65.9	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633										
MRL Check (B389519-MRL1)				Prepared: 10/17/24 Analyzed: 10/22/24						
Surrogate: 13C4-PFHpA	*16.1*		ng/L	24.77		65.0	55-150			
Surrogate: 13C8-PFOA	*16.4*		ng/L	24.77		66.4	60-140			
Surrogate: 13C9-PFNA	*8.65*		ng/L	12.39		69.8	55-140			
Surrogate: 13C6-PFDA	*7.84*		ng/L	12.39		63.3	50-140			
Surrogate: 13C7-PFUnA	*7.43*		ng/L	12.39		60.0	30-140			
Surrogate: 13C2-PFDoA	*7.24*		ng/L	12.39		58.4	10-150			
Surrogate: 13C2-PFTeDA	*7.54*		ng/L	12.39		60.8	10-130			
Surrogate: 13C3-PFBS	*18.4*		ng/L	24.77		74.1	55-150			
Surrogate: 13C3-PFHxS	*16.9*		ng/L	24.77		68.3	55-150			
Surrogate: 13C8-PFOS	*16.8*		ng/L	24.77		67.8	45-140			
Surrogate: 13C2-4:2FTS	*37.9*		ng/L	49.55		76.5	60-200			
Surrogate: 13C2-6:2FTS	*34.7*		ng/L	49.55		70.1	60-200			
Surrogate: 13C2-8:2FTS	*32.5*		ng/L	49.55		65.7	50-200			
Surrogate: 13C8-PFOSA	*15.4*		ng/L	24.77		62.2	30-130			
Surrogate: D3-NMeFOSA	*11.3*		ng/L	24.77		45.6	15-130			
Surrogate: D5-NEtFOSA	*11.8*		ng/L	24.77		47.8	10-130			
Surrogate: D3-NMeFOSAA	*36.8*		ng/L	49.55		74.4	45-200			
Surrogate: D5-NEtFOSAA	*35.0*		ng/L	49.55		70.7	10-200			
Surrogate: D7-NMeFOSE	*146*		ng/L	247.7		59.1	10-150			
Surrogate: D9-NEtFOSE	*132*		ng/L	247.7		53.4	10-150			
Surrogate: 13C3-HFPO-DA	*70.9*		ng/L	99.09		71.5	25-160			
Matrix Spike (B389519-MS1)	**Source: 24J0997-05**			Prepared: 10/17/24 Analyzed: 10/22/24						
Perfluorobutanoic acid (PFBA)	114	4.0	ng/L	96.68	ND	118	58-148			
Perfluoropentanoic acid (PFPeA)	54.0	2.0	ng/L	48.34	ND	112	54-152			
Perfluorohexanoic acid (PFHxA)	27.8	1.0	ng/L	24.17	0.297	114	55-152			
Perfluoroheptanoic acid (PFHpA)	27.3	1.0	ng/L	24.17	ND	113	54-154			
Perfluorooctanoic acid (PFOA)	26.7	1.0	ng/L	24.17	0.396	109	52-161			
Perfluorononanoic acid (PFNA)	27.8	1.0	ng/L	24.17	ND	115	59-149			
Perfluorodecanoic acid (PFDA)	25.6	1.0	ng/L	24.17	ND	106	52-147			
Perfluoroundecanoic acid (PFUnA)	26.2	1.0	ng/L	24.17	ND	108	48-159			
Perfluorododecanoic acid (PFDoA)	26.8	1.0	ng/L	24.17	ND	111	64-142			
Perfluorotridecanoic acid (PFTrDA)	22.6	1.0	ng/L	24.17	ND	93.6	49-148			
Perfluorotetradecanoic acid (PFTeDA)	26.7	1.0	ng/L	24.17	ND	111	47-161			
Perfluorobutanesulfonic acid (PFBS)	24.6	1.0	ng/L	21.44	0.224	113	62-144			
Perfluoropentanesulfonic acid (PFPeS)	26.6	1.0	ng/L	22.74	ND	117	59-151			
Perfluorohexanesulfonic acid (PFHxS)	29.6	1.0	ng/L	22.09	ND	134	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	28.4	1.0	ng/L	23.03	ND	123	55-152			
Perfluorooctanesulfonic acid (PFOS)	32.4	1.0	ng/L	22.43	3.09	130	58-149			V-06
Perfluorononanesulfonic acid (PFNS)	21.4	1.0	ng/L	23.25	ND	92.0	52-148			
Perfluorodecanesulfonic acid (PFDS)	16.8	1.0	ng/L	23.32	ND	72.2	51-147			
Perfluorododecanesulfonic acid (PFDoS)	9.51	1.0	ng/L	23.44	ND	40.5	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	108	4.0	ng/L	90.64	ND	119	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	115	4.0	ng/L	91.84	ND	125	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	119	4.0	ng/L	92.81	ND	128	63-152			
Perfluorooctanesulfonamide (PFOSA)	27.4	1.0	ng/L	24.17	ND	113	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	25.2	1.0	ng/L	24.17	ND	104	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.0	1.0	ng/L	24.17	ND	103	65-139			
N-MeFOSAA (NMeFOSAA)	31.6	1.0	ng/L	24.17	ND	131	58-144			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633											
Matrix Spike (B389519-MS1)	**Source: 24J0997-05**			Prepared: 10/17/24 Analyzed: 10/22/24							
N-EtFOSAA (NEtFOSAA)	31.1	1.0	ng/L	24.17	ND	129		59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	216	10	ng/L	241.7	ND	89.2		71-136			PF-18
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	183	10	ng/L	241.7	ND	75.7		69-137			PF-18
Hexafluoropropylene oxide dimer acid (HFPO-DA)	102	4.0	ng/L	96.68	ND	105		63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	92.0	4.0	ng/L	91.36	ND	101		68-146			
9Cl-PF3ONS (F53B Minor)	72.2	4.0	ng/L	90.39	ND	79.9		56-156			
11Cl-PF3OUdS (F53B Major)	47.2	4.0	ng/L	91.36	ND	51.7		46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	255	10	ng/L	241.7	ND	106		62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1200	50	ng/L	1208	ND	99.3		63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1060	50	ng/L	1208	ND	87.5		50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	50.9	2.0	ng/L	43.02	ND	118		56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	53.7	2.0	ng/L	48.34	ND	111		51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	55.7	2.0	ng/L	48.34	ND	115		55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	63.4	2.0	ng/L	48.34	ND	131		48-161			
Surrogate: 13C4-PFBA	*77.4*		ng/L	100.7		76.8		10-130			
Surrogate: 13C5-PFPeA	*33.9*		ng/L	50.35		67.3		35-150			
Surrogate: 13C5-PFHxA	*16.2*		ng/L	25.18		64.4		55-150			
Surrogate: 13C4-PFHpA	*15.9*		ng/L	25.18		63.2		55-150			
Surrogate: 13C8-PFOA	*15.5*		ng/L	25.18		61.6		60-140			
Surrogate: 13C9-PFNA	*7.91*		ng/L	12.59		62.8		55-140			
Surrogate: 13C6-PFDA	*7.61*		ng/L	12.59		60.4		50-140			
Surrogate: 13C7-PFUnA	*6.32*		ng/L	12.59		50.2		30-140			
Surrogate: 13C2-PFDoA	*4.99*		ng/L	12.59		39.7		10-150			
Surrogate: 13C2-PFTeDA	*3.03*		ng/L	12.59		24.0		10-130			
Surrogate: 13C3-PFBS	*17.5*		ng/L	25.18		69.6		55-150			
Surrogate: 13C3-PFHxS	*16.0*		ng/L	25.18		63.4		55-150			
Surrogate: 13C8-PFOS	*15.3*		ng/L	25.18		60.9		45-140			
Surrogate: 13C2-4:2FTS	*35.0*		ng/L	50.35		69.4		60-200			
Surrogate: 13C2-6:2FTS	*33.6*		ng/L	50.35		66.7		60-200			
Surrogate: 13C2-8:2FTS	*27.5*		ng/L	50.35		54.7		50-200			
Surrogate: 13C8-PFOSA	*14.7*		ng/L	25.18		58.3		30-130			
Surrogate: D3-NMeFOSA	*9.39*		ng/L	25.18		37.3		15-130			
Surrogate: D5-NEtFOSA	*7.75*		ng/L	25.18		30.8		10-130			
Surrogate: D3-NMeFOSAA	*27.0*		ng/L	50.35		53.6		45-200			
Surrogate: D5-NEtFOSAA	*23.4*		ng/L	50.35		46.5		10-200			
Surrogate: D7-NMeFOSE	*17.5*		ng/L	251.8		**6.96**	*	10-150			PF-18
Surrogate: D9-NEtFOSE	*3.19*		ng/L	251.8		**1.27**	*	10-150			PF-18
Surrogate: 13C3-HFPO-DA	*68.9*		ng/L	100.7		68.5		25-160			
Matrix Spike Dup (B389519-MSD1)	**Source: 24J0997-05**			Prepared: 10/17/24 Analyzed: 10/22/24							
Perfluorobutanoic acid (PFBA)	107	3.9	ng/L	94.42	ND	113		58-148	6.28	20	
Perfluoropentanoic acid (PFPeA)	51.5	2.0	ng/L	47.21	ND	109		54-152	4.69	20	
Perfluorohexanoic acid (PFHxA)	26.7	0.98	ng/L	23.60	0.297	112		55-152	4.10	25	
Perfluoroheptanoic acid (PFHpA)	25.9	0.98	ng/L	23.60	ND	110		54-154	5.27	25	
Perfluorooctanoic acid (PFOA)	25.3	0.98	ng/L	23.60	0.396	106		52-161	5.42	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633										
Matrix Spike Dup (B389519-MSD1)	**Source: 24J0997-05**			Prepared: 10/17/24 Analyzed: 10/22/24						
Perfluorononanoic acid (PFNA)	25.8	0.98	ng/L	23.60	ND	109	59-149	7.54	25	
Perfluorodecanoic acid (PFDA)	24.8	0.98	ng/L	23.60	ND	105	52-147	3.06	25	
Perfluoroundecanoic acid (PFUnA)	24.6	0.98	ng/L	23.60	ND	104	48-159	6.35	30	
Perfluorododecanoic acid (PFDoA)	24.8	0.98	ng/L	23.60	ND	105	64-142	7.66	25	
Perfluorotridecanoic acid (PFTrDA)	20.3	0.98	ng/L	23.60	ND	85.9	49-148	11.0	25	
Perfluorotetradecanoic acid (PFTeDA)	25.2	0.98	ng/L	23.60	ND	107	47-161	6.01	25	
Perfluorobutanesulfonic acid (PFBS)	22.1	0.98	ng/L	20.94	0.224	105	62-144	10.4	20	
Perfluoropentanesulfonic acid (PFPeS)	25.5	0.98	ng/L	22.21	ND	115	59-151	4.21	25	
Perfluorohexanesulfonic acid (PFHxS)	27.4	0.98	ng/L	21.57	ND	127	57-146	7.56	25	
Perfluoroheptanesulfonic acid (PFHpS)	27.0	0.98	ng/L	22.49	ND	120	55-152	5.20	25	
Perfluorooctanesulfonic acid (PFOS)	30.7	0.98	ng/L	21.90	3.09	126	58-149	5.14	20	V-06
Perfluorononanesulfonic acid (PFNS)	22.1	0.98	ng/L	22.71	ND	97.5	52-148	3.37	25	
Perfluorodecanesulfonic acid (PFDS)	18.2	0.98	ng/L	22.78	ND	79.9	51-147	7.77	25	
Perfluorododecanesulfonic acid (PFDoS)	8.45	0.98	ng/L	22.90	ND	36.9	36-145	11.7	30	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	105	3.9	ng/L	88.52	ND	118	67-146	2.71	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	108	3.9	ng/L	89.70	ND	120	61-151	6.35	30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	113	3.9	ng/L	90.64	ND	124	63-152	4.95	30	
Perfluorooctanesulfonamide (PFOSA)	24.9	0.98	ng/L	23.60	ND	106	61-148	9.37	20	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.5	0.98	ng/L	23.60	ND	99.4	63-145	7.01	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.6	0.98	ng/L	23.60	ND	109	65-139	2.66	25	
N-MeFOSAA (NMeFOSAA)	33.5	0.98	ng/L	23.60	ND	142	58-144	5.79	25	
N-EtFOSAA (NEtFOSAA)	30.4	0.98	ng/L	23.60	ND	129	59-146	2.21	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	198	9.8	ng/L	236.0	ND	83.8	71-136	8.62	20	PF-18
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	194	9.8	ng/L	236.0	ND	82.1	69-137	5.77	25	PF-18
Hexafluoropropylene oxide dimer acid (HFPO-DA)	95.7	3.9	ng/L	94.42	ND	101	63-144	6.27	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	82.1	3.9	ng/L	89.22	ND	92.1	68-146	11.3	20	
9Cl-PF3ONS (F53B Minor)	68.6	3.9	ng/L	88.28	ND	77.7	56-156	5.18	30	
11Cl-PF3OUdS (F53B Major)	48.8	3.9	ng/L	89.22	ND	54.7	46-156	3.26	35	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	233	9.8	ng/L	236.0	ND	98.5	62-129	9.31	20	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1120	49	ng/L	1180	ND	94.8	63-134	7.00	20	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	992	49	ng/L	1180	ND	84.1	50-138	6.33	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	48.8	2.0	ng/L	42.02	ND	116	56-151	4.10	20	
Perfluoro-3-methoxypropanoic acid (PFMPA)	51.3	2.0	ng/L	47.21	ND	109	51-145	4.60	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	52.6	2.0	ng/L	47.21	ND	111	55-148	5.70	20	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.4	2.0	ng/L	47.21	ND	126	48-161	6.51	35	
Surrogate: 13C4-PFBA	*75.4*		ng/L	98.35		76.6	10-130			
Surrogate: 13C5-PFPeA	*32.5*		ng/L	49.18		66.1	35-150			
Surrogate: 13C5-PFHxA	*15.4*		ng/L	24.59		62.5	55-150			
Surrogate: 13C4-PFHpA	*15.5*		ng/L	24.59		63.1	55-150			
Surrogate: 13C8-PFOA	*15.9*		ng/L	24.59		64.6	60-140			
Surrogate: 13C9-PFNA	*8.15*		ng/L	12.29		66.3	55-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389519 - Draft Method 1633											
Matrix Spike Dup (B389519-MSD1)	**Source: 24J0997-05**			Prepared: 10/17/24 Analyzed: 10/22/24							
Surrogate: 13C6-PFDA	*7.36*		ng/L	12.29		59.9		50-140			
Surrogate: 13C7-PFUnA	*6.48*		ng/L	12.29		52.7		30-140			
Surrogate: 13C2-PFDoA	*5.13*		ng/L	12.29		41.7		10-150			
Surrogate: 13C2-PFTeDA	*2.79*		ng/L	12.29		22.7		10-130			
Surrogate: 13C3-PFBS	*17.4*		ng/L	24.59		70.8		55-150			
Surrogate: 13C3-PFHxS	*15.5*		ng/L	24.59		62.9		55-150			
Surrogate: 13C8-PFOS	*15.0*		ng/L	24.59		61.2		45-140			
Surrogate: 13C2-4:2FTS	*33.0*		ng/L	49.18		67.2		60-200			
Surrogate: 13C2-6:2FTS	*31.9*		ng/L	49.18		64.9		60-200			
Surrogate: 13C2-8:2FTS	*26.1*		ng/L	49.18		53.0		50-200			
Surrogate: 13C8-PFOSA	*14.5*		ng/L	24.59		58.9		30-130			
Surrogate: D3-NMeFOSA	*8.53*		ng/L	24.59		34.7		15-130			
Surrogate: D5-NEtFOSA	*6.79*		ng/L	24.59		27.6		10-130			
Surrogate: D3-NMeFOSAA	*27.7*		ng/L	49.18		56.4		45-200			
Surrogate: D5-NEtFOSAA	*23.9*		ng/L	49.18		48.6		10-200			
Surrogate: D7-NMeFOSE	*17.5*		ng/L	245.9		**7.13**	*	10-150			PF-18
Surrogate: D9-NEtFOSE	*4.54*		ng/L	245.9		**1.85**	*	10-150			PF-18
Surrogate: 13C3-HFPO-DA	*68.6*		ng/L	98.35		69.7		25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388547 - Draft Method 1633										
Blank (B388547-BLK1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B388547-BS1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	208	5.0	mg/L	200.0		104	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
PF-18	Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.
S-29	Extracted Internal Standard is outside of control limits.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J0997RF

Pace

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Company Name: Michael Baker Intl
Address: 100 Airside Dr
Phone: 412-269-6300

Project Name:
Project Location: Saegertown
Project Number: 189463
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time Requested (TAT):
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush TAT (Surcharge Applies):
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Deliverables:
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Samples:
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples:
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP / GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1	GWG-34	10/3/24	1515	G	GW				3			X
2	GWG-12	↓	1700		GW				3			↓
3	GWG-13	↓	1850		GW				3			
4	EB-02	10/4/24	0830		W				3			
5	GWG-17	↓	1010		GW				3			
3	GWG-17MS		1010		↓				3			
5	GWG-17MSD		1010						3			
6	GWG-16		1130	↓					3			

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
BCole	10/4/24 1300
Received by: (signature)	Date/Time:
Matt Yu PACE	10/4/24 1346
Relinquished by: (signature)	Date/Time:
Matt Yu PACE	10/4/24 1620
Received by: (signature)	Date/Time:
BUFF SC	10-4-24/1620
Relinquished by: (signature)	Date/Time:
Russell B Bixby	10-4-24/16:21
Received by: (signature)	Date/Time:
	10-4-24 1621
Relinquished by: (signature)	Date/Time:
	10-5-24 1630
Received by: (signature)	Date/Time:
28	10/5/24 1300

Client Comments:

Regulatory Requirements:
MA ☐
NY ☐
Other ☐

Special Requirements:
MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project N/A

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location Sage Town, PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time EGR 10/3/24 1300

Back-Sheet By / Date / Time STM 10/7/24 1610

Temperature Method Gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp ☒ < 6° C Actual Temperature 2.4

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒	Analysis ☒	Sampler Name ☐
Project ☒	IDs ☒	Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Qualtrax ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils ars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250ml																				
Phosphoric																						
HCl																						
Unpreserved		100ml																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500ml	2	2	2	2	6	2														
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					
			1	1	-	-	3	1														

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 21, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189432
Laboratory Work Order Number: 24J1016

Enclosed are results of analyses for samples as received by the laboratory on October 5, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 10/21/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J1016

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWG-14	24J1016-01	Ground Water		Draft Method 1633	
GWG-15	24J1016-02	Ground Water		Draft Method 1633	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-14 | Sampled: 10/4/2024 16:00

Sample ID: 24J1016-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoropentanoic acid (PFPeA)	9.3	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorohexanoic acid (PFHxA)	5.4	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoroheptanoic acid (PFHpA)	2.9	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorooctanoic acid (PFOA)	1.2	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorooctanesulfonic acid (PFOS)	1.3	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-14 | Sampled: 10/4/2024 16:00

Sample ID: 24J1016-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 20:47	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.9	10-130		10/18/24 20:47
13C5-PFPeA	96.4	35-150		10/18/24 20:47
13C5-PFHxA	77.5	55-150		10/18/24 20:47
13C4-PFHpA	78.4	55-150		10/18/24 20:47
13C8-PFOA	82.8	60-140		10/18/24 20:47
13C9-PFNA	82.8	55-140		10/18/24 20:47
13C6-PFDA	77.7	50-140		10/18/24 20:47
13C7-PFUnA	75.8	30-140		10/18/24 20:47
13C2-PFDoA	70.6	10-150		10/18/24 20:47
13C2-PFTeDA	69.1	10-130		10/18/24 20:47
13C3-PFBS	79.7	55-150		10/18/24 20:47
13C3-PFHxS	81.9	55-150		10/18/24 20:47
13C8-PFOS	79.2	45-140		10/18/24 20:47
13C2-4:2FTS	72.4	60-200		10/18/24 20:47
13C2-6:2FTS	71.6	60-200		10/18/24 20:47
13C2-8:2FTS	73.9	50-200		10/18/24 20:47
13C8-PFOSA	71.3	30-130		10/18/24 20:47
D3-NMeFOSA	57.8	15-130		10/18/24 20:47
D5-NEtFOSA	53.5	10-130		10/18/24 20:47
D3-NMeFOSAA	73.3	45-200		10/18/24 20:47
D5-NEtFOSAA	75.1	10-200		10/18/24 20:47
D7-NMeFOSE	79.9	10-150		10/18/24 20:47
D9-NEtFOSE	81.1	10-150		10/18/24 20:47
13C3-HFPO-DA	76.6	25-160		10/18/24 20:47

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-14 | Sampled: 10/4/2024 16:00

Sample ID: 24J1016-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	330	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-15 | Sampled: 10/4/2024 16:30

Sample ID: 24J1016-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	27	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoropentanoic acid (PFPeA)	8.2	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorohexanoic acid (PFHxA)	4.4	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoroheptanoic acid (PFHpA)	3.4	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorooctanoic acid (PFOA)	19	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorononanoic acid (PFNA)	2.2	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorobutanesulfonic acid (PFBS)	3.4	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorohexanesulfonic acid (PFHxS)	5.5	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorooctanesulfonic acid (PFOS)	15	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-15 | Sampled: 10/4/2024 16:30

Sample ID: 24J1016-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/15/24	10/18/24 21:03	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	74.7	10-130		10/18/24 21:03
13C5-PFPeA	93.4	35-150		10/18/24 21:03
13C5-PFHxA	74.7	55-150		10/18/24 21:03
13C4-PFHpA	74.0	55-150		10/18/24 21:03
13C8-PFOA	76.9	60-140		10/18/24 21:03
13C9-PFNA	74.7	55-140		10/18/24 21:03
13C6-PFDA	81.9	50-140		10/18/24 21:03
13C7-PFUnA	79.0	30-140		10/18/24 21:03
13C2-PFDoA	65.2	10-150		10/18/24 21:03
13C2-PFTeDA	56.4	10-130		10/18/24 21:03
13C3-PFBS	78.4	55-150		10/18/24 21:03
13C3-PFHxS	78.2	55-150		10/18/24 21:03
13C8-PFOS	76.8	45-140		10/18/24 21:03
13C2-4:2FTS	76.0	60-200		10/18/24 21:03
13C2-6:2FTS	75.4	60-200		10/18/24 21:03
13C2-8:2FTS	66.0	50-200		10/18/24 21:03
13C8-PFOSA	69.6	30-130		10/18/24 21:03
D3-NMeFOSA	50.6	15-130		10/18/24 21:03
D5-NEtFOSA	49.6	10-130		10/18/24 21:03
D3-NMeFOSAA	64.4	45-200		10/18/24 21:03
D5-NEtFOSAA	65.1	10-200		10/18/24 21:03
D7-NMeFOSE	65.5	10-150		10/18/24 21:03
D9-NEtFOSE	71.3	10-150		10/18/24 21:03
13C3-HFPO-DA	69.9	25-160		10/18/24 21:03

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1016

Date Received: 10/5/2024

Field Sample #: GWG-15 | Sampled: 10/4/2024 16:30

Sample ID: 24J1016-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	230	10	mg/L	1		Draft Method 1633	10/8/24	10/8/24 13:25	LL

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Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J1016-01 [GWG-14]	B388547	50.0	10/08/24
24J1016-02 [GWG-15]	B388547	50.0	10/08/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/8/2024 per NO PREP in Batch B388547**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J1016-01 [GWG-14]	B389233	501	5.00	10/15/24
24J1016-02 [GWG-15]	B389233	491	5.00	10/15/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389233 - Draft Method 1633										
Blank (B389233-BLK1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.98	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.98	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.98	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.98	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*80.0*		ng/L	97.61		81.9	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389233 - Draft Method 1633										
Blank (B389233-BLK1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Surrogate: 13C5-PFPeA	*46.4*		ng/L	48.81		95.0	35-150			
Surrogate: 13C5-PFHxA	*19.4*		ng/L	24.40		79.6	55-150			
Surrogate: 13C4-PFHpA	*20.0*		ng/L	24.40		81.8	55-150			
Surrogate: 13C8-PFOA	*19.7*		ng/L	24.40		80.8	60-140			
Surrogate: 13C9-PFNA	*10.1*		ng/L	12.20		82.5	55-140			
Surrogate: 13C6-PFDA	*10.2*		ng/L	12.20		83.2	50-140			
Surrogate: 13C7-PFUnA	*10.4*		ng/L	12.20		85.0	30-140			
Surrogate: 13C2-PFDoA	*9.23*		ng/L	12.20		75.7	10-150			
Surrogate: 13C2-PFTeDA	*8.77*		ng/L	12.20		71.9	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	24.40		82.7	55-150			
Surrogate: 13C3-PFHxS	*20.7*		ng/L	24.40		84.8	55-150			
Surrogate: 13C8-PFOS	*19.8*		ng/L	24.40		81.0	45-140			
Surrogate: 13C2-4:2FTS	*34.3*		ng/L	48.81		70.3	60-200			
Surrogate: 13C2-6:2FTS	*39.1*		ng/L	48.81		80.2	60-200			
Surrogate: 13C2-8:2FTS	*39.1*		ng/L	48.81		80.1	50-200			
Surrogate: 13C8-PFOSA	*19.2*		ng/L	24.40		78.8	30-130			
Surrogate: D3-NMeFOSA	*13.9*		ng/L	24.40		57.1	15-130			
Surrogate: D5-NEtFOSA	*14.2*		ng/L	24.40		58.0	10-130			
Surrogate: D3-NMeFOSAA	*36.6*		ng/L	48.81		74.9	45-200			
Surrogate: D5-NEtFOSAA	*36.6*		ng/L	48.81		74.9	10-200			
Surrogate: D7-NMeFOSE	*192*		ng/L	244.0		78.7	10-150			
Surrogate: D9-NEtFOSE	*185*		ng/L	244.0		75.7	10-150			
Surrogate: 13C3-HFPO-DA	*75.6*		ng/L	97.61		77.5	25-160			
LCS (B389233-BS1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Perfluorobutanoic acid (PFBA)	111	3.9	ng/L	94.07		118	58-148			
Perfluoropentanoic acid (PFPeA)	56.7	2.0	ng/L	47.03		120	54-152			
Perfluorohexanoic acid (PFHxA)	28.7	0.98	ng/L	23.52		122	55-152			
Perfluoroheptanoic acid (PFHpA)	26.7	0.98	ng/L	23.52		113	54-154			
Perfluorooctanoic acid (PFOA)	27.7	0.98	ng/L	23.52		118	52-161			
Perfluorononanoic acid (PFNA)	27.7	0.98	ng/L	23.52		118	59-149			
Perfluorodecanoic acid (PFDA)	27.2	0.98	ng/L	23.52		116	52-147			
Perfluoroundecanoic acid (PFUnA)	25.8	0.98	ng/L	23.52		110	48-159			
Perfluorododecanoic acid (PFDoA)	27.4	0.98	ng/L	23.52		116	64-142			
Perfluorotridecanoic acid (PFTrDA)	29.9	0.98	ng/L	23.52		127	49-148			
Perfluorotetradecanoic acid (PFTeDA)	27.3	0.98	ng/L	23.52		116	47-161			
Perfluorobutanesulfonic acid (PFBS)	23.1	0.98	ng/L	20.87		110	62-144			
Perfluoropentanesulfonic acid (PFPeS)	26.5	0.98	ng/L	22.11		120	59-151			
Perfluorohexanesulfonic acid (PFHxS)	24.1	0.98	ng/L	21.52		112	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	27.0	0.98	ng/L	22.40		121	55-152			
Perfluorooctanesulfonic acid (PFOS)	25.5	0.98	ng/L	21.81		117	58-149			
Perfluorononanesulfonic acid (PFNS)	25.0	0.98	ng/L	22.64		111	52-148			
Perfluorodecanesulfonic acid (PFDS)	25.3	0.98	ng/L	22.69		111	51-147			
Perfluorododecanesulfonic acid (PFDoS)	24.1	0.98	ng/L	22.81		106	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	107	3.9	ng/L	88.19		122	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	106	3.9	ng/L	89.36		118	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	106	3.9	ng/L	90.54		117	63-152			
Perfluorooctanesulfonamide (PFOSA)	27.1	0.98	ng/L	23.52		115	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	25.5	0.98	ng/L	23.52		108	63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389233 - Draft Method 1633										
LCS (B389233-BS1)				Prepared: 10/14/24 Analyzed: 10/16/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	26.6	0.98	ng/L	23.52		113	65-139			
N-MeFOSAA (NMeFOSAA)	29.1	0.98	ng/L	23.52		124	58-144			
N-EtFOSAA (NEtFOSAA)	28.2	0.98	ng/L	23.52		120	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	265	9.8	ng/L	235.2		113	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	264	9.8	ng/L	235.2		112	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	103	3.9	ng/L	94.07		109	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	108	3.9	ng/L	88.78		122	68-146			
9Cl-PF3ONS (F53B Minor)	100	3.9	ng/L	88.19		114	56-156			
11Cl-PF3OUdS (F53B Major)	97.3	3.9	ng/L	88.78		110	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	261	9.8	ng/L	235.2		111	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1530	49	ng/L	1176		130	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1430	49	ng/L	1176		122	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	51.0	2.0	ng/L	41.86		122	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	50.0	2.0	ng/L	47.03		106	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	55.2	2.0	ng/L	47.03		117	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	51.5	2.0	ng/L	47.03		110	48-161			
Surrogate: 13C4-PFBA	*82.3*		ng/L	97.99		84.0	10-130			
Surrogate: 13C5-PFPeA	*48.2*		ng/L	48.99		98.5	35-150			
Surrogate: 13C5-PFHxA	*19.9*		ng/L	24.50		81.1	55-150			
Surrogate: 13C4-PFHpA	*20.6*		ng/L	24.50		84.0	55-150			
Surrogate: 13C8-PFOA	*19.9*		ng/L	24.50		81.2	60-140			
Surrogate: 13C9-PFNA	*10.3*		ng/L	12.25		84.1	55-140			
Surrogate: 13C6-PFDA	*10.2*		ng/L	12.25		83.0	50-140			
Surrogate: 13C7-PFUnA	*10.1*		ng/L	12.25		82.1	30-140			
Surrogate: 13C2-PFDoA	*9.11*		ng/L	12.25		74.4	10-150			
Surrogate: 13C2-PFTeDA	*8.50*		ng/L	12.25		69.4	10-130			
Surrogate: 13C3-PFBS	*20.9*		ng/L	24.50		85.4	55-150			
Surrogate: 13C3-PFHxS	*20.9*		ng/L	24.50		85.3	55-150			
Surrogate: 13C8-PFOS	*20.7*		ng/L	24.50		84.5	45-140			
Surrogate: 13C2-4:2FTS	*39.3*		ng/L	48.99		80.3	60-200			
Surrogate: 13C2-6:2FTS	*44.3*		ng/L	48.99		90.5	60-200			
Surrogate: 13C2-8:2FTS	*41.3*		ng/L	48.99		84.3	50-200			
Surrogate: 13C8-PFOSA	*19.7*		ng/L	24.50		80.5	30-130			
Surrogate: D3-NMeFOSA	*14.8*		ng/L	24.50		60.4	15-130			
Surrogate: D5-NEtFOSA	*15.2*		ng/L	24.50		62.1	10-130			
Surrogate: D3-NMeFOSAA	*37.9*		ng/L	48.99		77.4	45-200			
Surrogate: D5-NEtFOSAA	*35.7*		ng/L	48.99		72.8	10-200			
Surrogate: D7-NMeFOSE	*200*		ng/L	245.0		81.7	10-150			
Surrogate: D9-NEtFOSE	*193*		ng/L	245.0		78.8	10-150			
Surrogate: 13C3-HFPO-DA	*76.3*		ng/L	97.99		77.9	25-160			
MRL Check (B389233-MRL1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Perfluorobutanoic acid (PFBA)	9.42	3.9	ng/L	7.867		120	44-157			
Perfluoropentanoic acid (PFPeA)	4.85	2.0	ng/L	3.933		123	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389233 - Draft Method 1633										
MRL Check (B389233-MRL1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Perfluorohexanoic acid (PFHxA)	2.34	0.98	ng/L	1.967		119	62-149			
Perfluoroheptanoic acid (PFHpA)	2.29	0.98	ng/L	1.967		116	56-150			
Perfluorooctanoic acid (PFOA)	2.32	0.98	ng/L	1.967		118	57-161			
Perfluorononanoic acid (PFNA)	2.38	0.98	ng/L	1.967		121	53-157			
Perfluorodecanoic acid (PFDA)	2.24	0.98	ng/L	1.967		114	43-158			
Perfluoroundecanoic acid (PFUnA)	2.16	0.98	ng/L	1.967		110	50-155			
Perfluorododecanoic acid (PFDoA)	2.24	0.98	ng/L	1.967		114	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.20	0.98	ng/L	1.967		112	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.29	0.98	ng/L	1.967		116	52-156			
Perfluorobutanesulfonic acid (PFBS)	2.13	0.98	ng/L	1.744		122	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.16	0.98	ng/L	1.851		117	58-144			
Perfluorohexanesulfonic acid (PFHxS)	1.86	0.98	ng/L	1.798		103	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.18	0.98	ng/L	1.874		116	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.05	0.98	ng/L	1.825		112	43-162			
Perfluorononanesulfonic acid (PFNS)	2.20	0.98	ng/L	1.892		116	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.03	0.98	ng/L	1.898		107	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.13	0.98	ng/L	1.908		112	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.80	3.9	ng/L	7.375		119	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.49	3.9	ng/L	7.474		127	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.39	3.9	ng/L	7.552		111	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.30	0.98	ng/L	1.967		117	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.63	0.98	ng/L	1.967		134	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.59	0.98	ng/L	1.967		132	49-156			
N-MeFOSAA (NMeFOSAA)	2.40	0.98	ng/L	1.967		122	32-160			
N-EtFOSAA (NEtFOSAA)	1.95	0.98	ng/L	1.967		98.9	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	23.7	9.8	ng/L	19.67		120	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	23.4	9.8	ng/L	19.67		119	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.40	3.9	ng/L	7.867		107	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.27	3.9	ng/L	7.434		111	61-148			
9Cl-PF3ONS (F53B Minor)	7.70	3.9	ng/L	7.356		105	44-167			
11Cl-PF3OUdS (F53B Major)	7.22	3.9	ng/L	7.434		97.1	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	19.3	9.8	ng/L	19.67		97.9	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	111	49	ng/L	98.34		113	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	107	49	ng/L	98.34		109	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.90	2.0	ng/L	3.501		111	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.91	2.0	ng/L	3.933		99.5	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.05	2.0	ng/L	3.933		103	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.56	2.0	ng/L	3.933		90.6	47-160			
Surrogate: 13C4-PFBA	*76.3*		ng/L	98.34		77.5	10-130			
Surrogate: 13C5-PFPeA	*44.9*		ng/L	49.17		91.3	35-150			
Surrogate: 13C5-PFHxA	*18.4*		ng/L	24.58		74.7	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389233 - Draft Method 1633										
MRL Check (B389233-MRL1)				Prepared: 10/14/24 Analyzed: 10/16/24						
Surrogate: 13C4-PFHpA	*18.5*		ng/L	24.58		75.3	55-150			
Surrogate: 13C8-PFOA	*19.4*		ng/L	24.58		79.1	60-140			
Surrogate: 13C9-PFNA	*9.37*		ng/L	12.29		76.2	55-140			
Surrogate: 13C6-PFDA	*9.76*		ng/L	12.29		79.4	50-140			
Surrogate: 13C7-PFUnA	*9.40*		ng/L	12.29		76.5	30-140			
Surrogate: 13C2-PFDoA	*8.76*		ng/L	12.29		71.3	10-150			
Surrogate: 13C2-PFTeDA	*7.85*		ng/L	12.29		63.8	10-130			
Surrogate: 13C3-PFBS	*18.6*		ng/L	24.58		75.7	55-150			
Surrogate: 13C3-PFHxS	*19.4*		ng/L	24.58		78.9	55-150			
Surrogate: 13C8-PFOS	*19.2*		ng/L	24.58		77.9	45-140			
Surrogate: 13C2-4:2FTS	*30.5*		ng/L	49.17		62.1	60-200			
Surrogate: 13C2-6:2FTS	*36.2*		ng/L	49.17		73.7	60-200			
Surrogate: 13C2-8:2FTS	*34.0*		ng/L	49.17		69.2	50-200			
Surrogate: 13C8-PFOSA	*17.9*		ng/L	24.58		72.6	30-130			
Surrogate: D3-NMeFOSA	*13.8*		ng/L	24.58		56.2	15-130			
Surrogate: D5-NEtFOSA	*13.6*		ng/L	24.58		55.5	10-130			
Surrogate: D3-NMeFOSAA	*35.8*		ng/L	49.17		72.8	45-200			
Surrogate: D5-NEtFOSAA	*36.6*		ng/L	49.17		74.4	10-200			
Surrogate: D7-NMeFOSE	*190*		ng/L	245.8		77.1	10-150			
Surrogate: D9-NEtFOSE	*182*		ng/L	245.8		74.2	10-150			
Surrogate: 13C3-HFPO-DA	*71.1*		ng/L	98.34		72.4	25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388547 - Draft Method 1633										
Blank (B388547-BLK1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B388547-BS1)				Prepared & Analyzed: 10/08/24						
Total Suspended Solids	208	5.0	mg/L	200.0		104	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J1016 RF

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Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Company Name: Michael Baker Int'l
Address: 100 Airside Dr
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time (TAT)
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☑ Due Date:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Deliverables
Format: PDF ☑ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Preservation of Samples
○ Field Filtered
○ Lab to Filter
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP / GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1	GWG-14	10/4/24	1600	G	GW				3			X
2	GWG-15	"	1630	G	GW				3			X

[2] Preservation Code

Contain Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/4/24 2000	Client Comments:
Received by: (signature) 2-H	Date/Time: 10/4/24 2000	
Relinquished by: (signature)	Date/Time: 10/5/24	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Fax ☐
Email ☐

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project Saegertown PFAs

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location Saegartown, PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☒ Walk In ☐ Other ☐

Received By / Date / Time RLidy 4/24 1000

Back-Sheet By / Date / Time STM 04/24 1859

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 2.4

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH. N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Quaitrax ID: 120856

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample	Soils (Circle Amb/Clear)			Ambers						Plastics												VOA Vials					Other / Fill in				
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	1 Liter HCL	Sulfuric	250ml Sulfuric	Phosphoric	NaOH	100ml Unpreserved	1 Liter Unpreserved	Sulfuric	500ml Unpreserved	Sulfuric	250mL Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact	125ml plastic			
1														N															1		
2														N																	
3																															
4																															
5																															
6																															
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17																															
18																															
19																															
20																															

FedEx

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FedEx® Tracking

DELIVERED

Saturday

10/5/24 at 10:00 AM

Signed for by: E.RIVERA

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

Report missing package

ADD YOUR EMAIL TO STAY UPDATED ON THIS SHIPMENT

Contestlab39

✖ Your email is invalid.

GET UPDATES

MORE OPTIONS

TRACKING ID

805317849147

FROM
MOON TOWNSHIP, PA US

WE HAVE YOUR PACKAGE
MOON TOWNSHIP, PA
10/4/24 8:19 PM

ON THE WAY
WINDSOR LOCKS, CT
10/5/24 8:14 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT

FedEx

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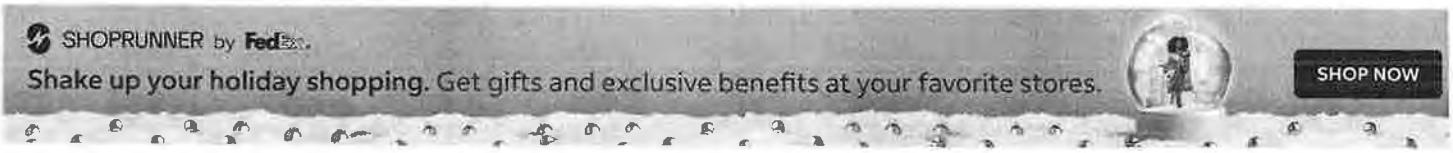
FedEx® Tracking



DELIVERED

Saturday

10/5/24 at 10:00 AM

Signed for by: E.RIVERA

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

Report missing package

ADD YOUR EMAIL TO STAY UPDATED ON THIS SHIPMENT

Contestlab39

✖ Your email is invalid.

GET UPDATES

MORE OPTIONS

TRACKING ID

805317849147

FROM
MOON TOWNSHIP, PA US

WE HAVE YOUR PACKAGE
MOON TOWNSHIP, PA
10/4/24 8:19 PM

ON THE WAY
WINDSOR LOCKS, CT
10/5/24 8:14 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT

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October 29, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24J1556

Enclosed are results of analyses for samples as received by the laboratory on October 9, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 10/29/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J1556

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWG-1	24J1556-01	Ground Water		Draft Method 1633	
GWG-4	24J1556-02	Ground Water		Draft Method 1633	
GWG-20	24J1556-03	Ground Water		Draft Method 1633	
SB-14-1	24J1556-04	Soil		Draft Method 1633	
				SM 2540G	
SB-14-8	24J1556-05	Soil		Draft Method 1633	
				SM 2540G	
EB-03	24J1556-06	Equipment Blank Water		Draft Method 1633	
SB-18-1	24J1556-07	Soil		Draft Method 1633	
				SM 2540G	
SB-18-20	24J1556-08	Soil		Draft Method 1633	
				SM 2540G	
GWG-18	24J1556-09	Ground Water		Draft Method 1633	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

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Draft Method 1633

Qualifications:

MS-23

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
B389426-MSD2

PF-17C

Extracted internal standard is outside of control limits. Analyte is a known difficult compound.

Analyte & Samples(s) Qualified:

13C4-PFBA
B389426-MSD2

D3-NMeFOSA
24J1556-04[SB-14-1], 24J1556-05[SB-14-8], 24J1556-07[SB-18-1], 24J1556-08[SB-18-20], B389426-BLK1, B389426-MRL1

D5-NEtFOSA
24J1556-04[SB-14-1], 24J1556-05[SB-14-8], 24J1556-07[SB-18-1], 24J1556-08[SB-18-20], B389426-BLK1, B389426-MRL1

D7-NMeFOSE
24J1556-08[SB-18-20]

D9-NEtFOSE
24J1556-08[SB-18-20]

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
24J1556-04[SB-14-1], 24J1556-05[SB-14-8], 24J1556-07[SB-18-1], 24J1556-08[SB-18-20], B389426-BLK1, B389426-MRL1

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
24J1556-08[SB-18-20]

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
24J1556-04[SB-14-1], 24J1556-05[SB-14-8], 24J1556-07[SB-18-1], 24J1556-08[SB-18-20], B389426-BLK1, B389426-MRL1

N-methylperfluorooctanesulfonamidoethanol(NMeF
24J1556-08[SB-18-20]

Perfluorobutanoic acid (PFBA)
B389426-MSD2

R-06

Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.

Analyte & Samples(s) Qualified:

3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA
B389426-MSD2

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
B389426-MSD2

Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
B389426-MSD2

Perfluoro-3-methoxypropanoic acid (PFMPA)
B389426-MSD2

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S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C2-4:2FTS
24J1556-03[GWG-20]

13C5-PFHxA
24J1556-03[GWG-20]

13C5-PFPeA
B389426-MSD2

13C8-PFOA
24J1556-03[GWG-20]

13C8-PFOSA
S112986-CCV2

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FT
24J1556-03[GWG-20]

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
24J1556-03[GWG-20]

3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTC
24J1556-03[GWG-20]

D5-NEtFOSA
S112967-CCV2

D9-NEtFOSE
S112967-CCV2

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
S112967-CCV2

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S112967-CCV2

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
24J1556-03[GWG-20]

Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
24J1556-03[GWG-20]

Perfluorohexanoic acid (PFHxA)
24J1556-03[GWG-20]

Perfluorooctanesulfonamide (PFOSA)
S112986-CCV2

Perfluorooctanoic acid (PFOA)
24J1556-03[GWG-20]

Perfluoropentanoic acid (PFPeA)
B389426-MSD2

SM 2540G

Qualifications:

H-06

Sample was extracted past the recommended holding time.

Analyte & Samples(s) Qualified:

% Solids
24J1556-07[SB-18-1], 24J1556-08[SB-18-20]

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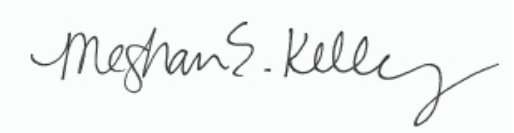
The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-1 | Sampled: 10/7/2024 11:50

Sample ID: 24J1556-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorooctanoic acid (PFOA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorooctanesulfonic acid (PFOS)	2.5	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-1 | Sampled: 10/7/2024 11:50

Sample ID: 24J1556-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 14:52	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.6	10-130		10/23/24 14:52
13C5-PFPeA	70.7	35-150		10/23/24 14:52
13C5-PFHxA	71.3	55-150		10/23/24 14:52
13C4-PFHpA	71.8	55-150		10/23/24 14:52
13C8-PFOA	72.4	60-140		10/23/24 14:52
13C9-PFNA	77.8	55-140		10/23/24 14:52
13C6-PFDA	73.5	50-140		10/23/24 14:52
13C7-PFUnA	71.8	30-140		10/23/24 14:52
13C2-PFDoA	64.6	10-150		10/23/24 14:52
13C2-PFTeDA	60.6	10-130		10/23/24 14:52
13C3-PFBS	79.9	55-150		10/23/24 14:52
13C3-PFHxS	75.0	55-150		10/23/24 14:52
13C8-PFOS	73.0	45-140		10/23/24 14:52
13C2-4:2FTS	89.7	60-200		10/23/24 14:52
13C2-6:2FTS	72.9	60-200		10/23/24 14:52
13C2-8:2FTS	66.9	50-200		10/23/24 14:52
13C8-PFOSA	68.1	30-130		10/23/24 14:52
D3-NMeFOSA	57.1	15-130		10/23/24 14:52
D5-NEtFOSA	60.4	10-130		10/23/24 14:52
D3-NMeFOSAA	70.8	45-200		10/23/24 14:52
D5-NEtFOSAA	69.3	10-200		10/23/24 14:52
D7-NMeFOSE	64.6	10-150		10/23/24 14:52
D9-NEtFOSE	60.5	10-150		10/23/24 14:52
13C3-HFPO-DA	68.7	25-160		10/23/24 14:52

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-1 | Sampled: 10/7/2024 11:50

Sample ID: 24J1556-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	50	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-4 | Sampled: 10/7/2024 13:00

Sample ID: 24J1556-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorooctanoic acid (PFOA)	1.4	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorobutanesulfonic acid (PFBS)	1.6	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorooctanesulfonic acid (PFOS)	2.6	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-4 | Sampled: 10/7/2024 13:00

Sample ID: 24J1556-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:07	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.1	10-130		10/23/24 15:07
13C5-PFPeA	67.8	35-150		10/23/24 15:07
13C5-PFHxA	67.5	55-150		10/23/24 15:07
13C4-PFHpA	68.6	55-150		10/23/24 15:07
13C8-PFOA	66.2	60-140		10/23/24 15:07
13C9-PFNA	71.6	55-140		10/23/24 15:07
13C6-PFDA	70.2	50-140		10/23/24 15:07
13C7-PFUnA	67.7	30-140		10/23/24 15:07
13C2-PFDoA	60.5	10-150		10/23/24 15:07
13C2-PFTeDA	57.4	10-130		10/23/24 15:07
13C3-PFBS	72.0	55-150		10/23/24 15:07
13C3-PFHxS	68.7	55-150		10/23/24 15:07
13C8-PFOS	69.1	45-140		10/23/24 15:07
13C2-4:2FTS	75.0	60-200		10/23/24 15:07
13C2-6:2FTS	67.2	60-200		10/23/24 15:07
13C2-8:2FTS	60.2	50-200		10/23/24 15:07
13C8-PFOSA	66.6	30-130		10/23/24 15:07
D3-NMeFOSA	55.5	15-130		10/23/24 15:07
D5-NEtFOSA	57.7	10-130		10/23/24 15:07
D3-NMeFOSAA	62.9	45-200		10/23/24 15:07
D5-NEtFOSAA	61.9	10-200		10/23/24 15:07
D7-NMeFOSE	60.6	10-150		10/23/24 15:07
D9-NEtFOSE	55.6	10-150		10/23/24 15:07
13C3-HFPO-DA	67.5	25-160		10/23/24 15:07

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-4 | Sampled: 10/7/2024 13:00

Sample ID: 24J1556-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-20 | Sampled: 10/7/2024 16:10

Sample ID: 24J1556-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorohexanoic acid (PFHxA)	1.5	0.98	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorooctanoic acid (PFOA)	5.4	0.98	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorobutanesulfonic acid (PFBS)	9.5	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorooctanesulfonic acid (PFOS)	1.7	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-20 | Sampled: 10/7/2024 16:10

Sample ID: 24J1556-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:23	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1	S-29	Draft Method 1633	10/22/24	10/23/24 15:23	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	65.5		10-130		10/23/24 15:23
13C5-PFPeA	56.1		35-150		10/23/24 15:23
13C5-PFHxA	**54.6**	*	55-150	S-29	10/23/24 15:23
13C4-PFHpA	57.8		55-150		10/23/24 15:23
13C8-PFOA	**56.4**	*	60-140	S-29	10/23/24 15:23
13C9-PFNA	60.0		55-140		10/23/24 15:23
13C6-PFDA	54.8		50-140		10/23/24 15:23
13C7-PFUnA	50.2		30-140		10/23/24 15:23
13C2-PFDoA	41.0		10-150		10/23/24 15:23
13C2-PFTeDA	31.2		10-130		10/23/24 15:23
13C3-PFBS	56.0		55-150		10/23/24 15:23
13C3-PFHxS	55.7		55-150		10/23/24 15:23
13C8-PFOS	53.6		45-140		10/23/24 15:23
13C2-4:2FTS	**59.9**	*	60-200	S-29	10/23/24 15:23
13C2-6:2FTS	63.0		60-200		10/23/24 15:23
13C2-8:2FTS	53.6		50-200		10/23/24 15:23
13C8-PFOSA	58.6		30-130		10/23/24 15:23
D3-NMeFOSA	37.2		15-130		10/23/24 15:23
D5-NEtFOSA	34.2		10-130		10/23/24 15:23
D3-NMeFOSAA	50.8		45-200		10/23/24 15:23
D5-NEtFOSAA	49.6		10-200		10/23/24 15:23
D7-NMeFOSE	42.2		10-150		10/23/24 15:23
D9-NEtFOSE	38.0		10-150		10/23/24 15:23
13C3-HFPO-DA	55.7		25-160		10/23/24 15:23

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-20 | Sampled: 10/7/2024 16:10

Sample ID: 24J1556-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	6700	14	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-1 | Sampled: 10/7/2024 17:10

Sample ID: 24J1556-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoropentanoic acid (PFPeA)	ND	0.47	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorohexanoic acid (PFHxA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorooctanoic acid (PFOA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorononanoic acid (PFNA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorodecanoic acid (PFDA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorododecanoic acid (PFDoA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.23	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.23	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-MeFOSAA (NMeFOSAA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-EtFOSAA (NEtFOSAA)	ND	0.23	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.3	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.3	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
9Cl-PF3ONS (F53B Minor)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
11Cl-PF3OUdS (F53B Major)	ND	0.94	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.3	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	12	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	12	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.47	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.47	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-1 | Sampled: 10/7/2024 17:10

Sample ID: 24J1556-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.47	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.47	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:20	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	88.6		10-130		10/24/24	18:20
13C5-PFPeA	81.9		35-150		10/24/24	18:20
13C5-PFHxA	79.1		55-150		10/24/24	18:20
13C4-PFHpA	78.9		55-150		10/24/24	18:20
13C8-PFOA	79.7		60-140		10/24/24	18:20
13C9-PFNA	84.6		55-140		10/24/24	18:20
13C6-PFDA	88.4		50-140		10/24/24	18:20
13C7-PFUnA	84.9		30-140		10/24/24	18:20
13C2-PFDoA	80.4		10-150		10/24/24	18:20
13C2-PFTeDA	76.5		10-130		10/24/24	18:20
13C3-PFBS	90.8		55-150		10/24/24	18:20
13C3-PFHxS	85.7		55-150		10/24/24	18:20
13C8-PFOS	84.8		45-140		10/24/24	18:20
13C2-4:2FTS	92.2		60-200		10/24/24	18:20
13C2-6:2FTS	86.2		60-200		10/24/24	18:20
13C2-8:2FTS	74.5		50-200		10/24/24	18:20
13C8-PFOSA	80.4		30-130		10/24/24	18:20
D3-NMeFOSA	**4.85**	*	15-130	PF-17C	10/24/24	18:20
D5-NEtFOSA	**1.79**	*	10-130	PF-17C	10/24/24	18:20
D3-NMeFOSAA	84.7		45-200		10/24/24	18:20
D5-NEtFOSAA	91.3		10-200		10/24/24	18:20
D7-NMeFOSE	16.3		10-150		10/24/24	18:20
D9-NEtFOSE	11.2		10-150		10/24/24	18:20
13C3-HFPO-DA	85.1		25-160		10/24/24	18:20

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-1 | Sampled: 10/7/2024 17:10

Sample ID: 24J1556-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.4		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-8 | Sampled: 10/7/2024 17:20

Sample ID: 24J1556-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoropentanoic acid (PFPeA)	ND	0.49	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorohexanoic acid (PFHxA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorooctanoic acid (PFOA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorononanoic acid (PFNA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorodecanoic acid (PFDA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorododecanoic acid (PFDoA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.24	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.24	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-MeFOSAA (NMeFOSAA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-EtFOSAA (NEtFOSAA)	ND	0.24	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.4	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.4	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
9Cl-PF3ONS (F53B Minor)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
11Cl-PF3OUdS (F53B Major)	ND	0.98	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.4	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	12	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	12	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.49	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.49	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-8 | Sampled: 10/7/2024 17:20

Sample ID: 24J1556-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.49	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.49	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:36	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	73.8		10-130		10/24/24	18:36
13C5-PFPeA	64.3		35-150		10/24/24	18:36
13C5-PFHxA	60.5		55-150		10/24/24	18:36
13C4-PFHpA	61.0		55-150		10/24/24	18:36
13C8-PFOA	60.8		60-140		10/24/24	18:36
13C9-PFNA	65.0		55-140		10/24/24	18:36
13C6-PFDA	72.9		50-140		10/24/24	18:36
13C7-PFUnA	64.1		30-140		10/24/24	18:36
13C2-PFDoA	65.2		10-150		10/24/24	18:36
13C2-PFTeDA	62.0		10-130		10/24/24	18:36
13C3-PFBS	70.5		55-150		10/24/24	18:36
13C3-PFHxS	64.0		55-150		10/24/24	18:36
13C8-PFOS	66.2		45-140		10/24/24	18:36
13C2-4:2FTS	78.9		60-200		10/24/24	18:36
13C2-6:2FTS	69.9		60-200		10/24/24	18:36
13C2-8:2FTS	61.0		50-200		10/24/24	18:36
13C8-PFOSA	58.9		30-130		10/24/24	18:36
D3-NMeFOSA	**9.90**	*	15-130	PF-17C	10/24/24	18:36
D5-NEtFOSA	**5.52**	*	10-130	PF-17C	10/24/24	18:36
D3-NMeFOSAA	64.9		45-200		10/24/24	18:36
D5-NEtFOSAA	68.2		10-200		10/24/24	18:36
D7-NMeFOSE	16.0		10-150		10/24/24	18:36
D9-NEtFOSE	11.5		10-150		10/24/24	18:36
13C3-HFPO-DA	65.1		25-160		10/24/24	18:36

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-14-8 | Sampled: 10/7/2024 17:20

Sample ID: 24J1556-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.9		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: EB-03 | Sampled: 10/8/2024 08:30

Sample ID: 24J1556-06

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoropentanoic acid (PFPeA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorohexanoic acid (PFHxA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
9Cl-PF3ONS (F53B Minor)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
11Cl-PF3OUdS (F53B Major)	ND	4.2	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	52	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	52	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: EB-03 | Sampled: 10/8/2024 08:30

Sample ID: 24J1556-06

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:39	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	82.6	10-130		10/23/24 15:39
13C5-PFPeA	70.3	35-150		10/23/24 15:39
13C5-PFHxA	69.0	55-150		10/23/24 15:39
13C4-PFHpA	70.1	55-150		10/23/24 15:39
13C8-PFOA	70.7	60-140		10/23/24 15:39
13C9-PFNA	72.2	55-140		10/23/24 15:39
13C6-PFDA	75.2	50-140		10/23/24 15:39
13C7-PFUnA	72.9	30-140		10/23/24 15:39
13C2-PFDoA	65.8	10-150		10/23/24 15:39
13C2-PFTeDA	61.0	10-130		10/23/24 15:39
13C3-PFBS	75.0	55-150		10/23/24 15:39
13C3-PFHxS	71.1	55-150		10/23/24 15:39
13C8-PFOS	74.1	45-140		10/23/24 15:39
13C2-4:2FTS	72.0	60-200		10/23/24 15:39
13C2-6:2FTS	72.5	60-200		10/23/24 15:39
13C2-8:2FTS	66.4	50-200		10/23/24 15:39
13C8-PFOSA	65.8	30-130		10/23/24 15:39
D3-NMeFOSA	57.6	15-130		10/23/24 15:39
D5-NEtFOSA	61.5	10-130		10/23/24 15:39
D3-NMeFOSAA	68.4	45-200		10/23/24 15:39
D5-NEtFOSAA	71.0	10-200		10/23/24 15:39
D7-NMeFOSE	63.4	10-150		10/23/24 15:39
D9-NEtFOSE	60.9	10-150		10/23/24 15:39
13C3-HFPO-DA	71.4	25-160		10/23/24 15:39

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: EB-03 | Sampled: 10/8/2024 08:30

Sample ID: 24J1556-06

Sample Matrix: Equipment Blank Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 7:29	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-1 | Sampled: 10/8/2024 10:45

Sample ID: 24J1556-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoropentanoic acid (PFPeA)	ND	0.45	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorohexanoic acid (PFHxA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorooctanoic acid (PFOA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorononanoic acid (PFNA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorodecanoic acid (PFDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorododecanoic acid (PFDoA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.22	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.22	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-MeFOSAA (NMeFOSAA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-EtFOSAA (NEtFOSAA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.2	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.2	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
9Cl-PF3ONS (F53B Minor)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
11Cl-PF3OUdS (F53B Major)	ND	0.90	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.2	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	11	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	11	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.45	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.45	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-1 | Sampled: 10/8/2024 10:45

Sample ID: 24J1556-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.45	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.45	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 18:52	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	74.8		10-130		10/24/24	18:52
13C5-PFPeA	71.3		35-150		10/24/24	18:52
13C5-PFHxA	72.8		55-150		10/24/24	18:52
13C4-PFHpA	70.2		55-150		10/24/24	18:52
13C8-PFOA	69.4		60-140		10/24/24	18:52
13C9-PFNA	73.7		55-140		10/24/24	18:52
13C6-PFDA	76.5		50-140		10/24/24	18:52
13C7-PFUnA	74.7		30-140		10/24/24	18:52
13C2-PFDoA	69.1		10-150		10/24/24	18:52
13C2-PFTeDA	69.0		10-130		10/24/24	18:52
13C3-PFBS	78.8		55-150		10/24/24	18:52
13C3-PFHxS	75.3		55-150		10/24/24	18:52
13C8-PFOS	73.1		45-140		10/24/24	18:52
13C2-4:2FTS	83.0		60-200		10/24/24	18:52
13C2-6:2FTS	82.1		60-200		10/24/24	18:52
13C2-8:2FTS	72.1		50-200		10/24/24	18:52
13C8-PFOSA	69.1		30-130		10/24/24	18:52
D3-NMeFOSA	**14.4**	*	15-130	PF-17C	10/24/24	18:52
D5-NEtFOSA	**9.03**	*	10-130	PF-17C	10/24/24	18:52
D3-NMeFOSAA	75.0		45-200		10/24/24	18:52
D5-NEtFOSAA	80.5		10-200		10/24/24	18:52
D7-NMeFOSE	31.7		10-150		10/24/24	18:52
D9-NEtFOSE	27.1		10-150		10/24/24	18:52
13C3-HFPO-DA	75.6		25-160		10/24/24	18:52

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-1 | Sampled: 10/8/2024 10:45

Sample ID: 24J1556-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1	H-06	SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-20 | Sampled: 10/8/2024 10:50

Sample ID: 24J1556-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoropentanoic acid (PFPeA)	ND	0.44	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorohexanoic acid (PFHxA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorooctanoic acid (PFOA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorononanoic acid (PFNA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorodecanoic acid (PFDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorododecanoic acid (PFDoA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.22	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.22	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-MeFOSAA (NMeFOSAA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-EtFOSAA (NEtFOSAA)	ND	0.22	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.2	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 19:07	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.2	µg/kg dry	1	PF-17C	Draft Method 1633	10/15/24	10/24/24 19:07	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
9Cl-PF3ONS (F53B Minor)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
11Cl-PF3OUdS (F53B Major)	ND	0.87	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.2	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	11	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	11	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.44	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.44	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-20 | Sampled: 10/8/2024 10:50

Sample ID: 24J1556-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.44	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.44	µg/kg dry	1		Draft Method 1633	10/15/24	10/24/24 19:07	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	83.1		10-130		10/24/24 19:07
13C5-PFPeA	79.1		35-150		10/24/24 19:07
13C5-PFHxA	77.7		55-150		10/24/24 19:07
13C4-PFHpA	78.8		55-150		10/24/24 19:07
13C8-PFOA	84.6		60-140		10/24/24 19:07
13C9-PFNA	82.1		55-140		10/24/24 19:07
13C6-PFDA	80.9		50-140		10/24/24 19:07
13C7-PFUnA	81.5		30-140		10/24/24 19:07
13C2-PFDoA	80.3		10-150		10/24/24 19:07
13C2-PFTeDA	70.4		10-130		10/24/24 19:07
13C3-PFBS	90.1		55-150		10/24/24 19:07
13C3-PFHxS	83.3		55-150		10/24/24 19:07
13C8-PFOS	86.7		45-140		10/24/24 19:07
13C2-4:2FTS	95.6		60-200		10/24/24 19:07
13C2-6:2FTS	90.5		60-200		10/24/24 19:07
13C2-8:2FTS	78.4		50-200		10/24/24 19:07
13C8-PFOSA	77.1		30-130		10/24/24 19:07
D3-NMeFOSA	**0.166**	*	15-130	PF-17C	10/24/24 19:07
D5-NEtFOSA	**0.0345**	*	10-130	PF-17C	10/24/24 19:07
D3-NMeFOSAA	82.5		45-200		10/24/24 19:07
D5-NEtFOSAA	87.1		10-200		10/24/24 19:07
D7-NMeFOSE	**3.53**	*	10-150	PF-17C	10/24/24 19:07
D9-NEtFOSE	**1.96**	*	10-150	PF-17C	10/24/24 19:07
13C3-HFPO-DA	81.2		25-160		10/24/24 19:07

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: SB-18-20 | Sampled: 10/8/2024 10:50

Sample ID: 24J1556-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.7		% Wt	1	H-06	SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-18 | Sampled: 10/8/2024 11:10

Sample ID: 24J1556-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoropentanoic acid (PFPeA)	8.0	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorohexanoic acid (PFHxA)	5.5	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoroheptanoic acid (PFHpA)	3.7	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorooctanoic acid (PFOA)	5.5	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorononanoic acid (PFNA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorodecanoic acid (PFDA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorododecanoic acid (PFDoA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorohexanesulfonic acid (PFHxS)	1.1	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorooctanesulfonic acid (PFOS)	5.4	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-MeFOSAA (NMeFOSAA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-EtFOSAA (NEtFOSAA)	ND	0.94	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.4	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.4	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
9Cl-PF3ONS (F53B Minor)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
11Cl-PF3OUdS (F53B Major)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.4	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	47	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	47	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-18 | Sampled: 10/8/2024 11:10

Sample ID: 24J1556-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/23/24 15:54	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	92.8	10-130		10/23/24 15:54
13C5-PFPeA	88.4	35-150		10/23/24 15:54
13C5-PFHxA	87.3	55-150		10/23/24 15:54
13C4-PFHpA	91.1	55-150		10/23/24 15:54
13C8-PFOA	85.3	60-140		10/23/24 15:54
13C9-PFNA	92.4	55-140		10/23/24 15:54
13C6-PFDA	89.3	50-140		10/23/24 15:54
13C7-PFUnA	79.4	30-140		10/23/24 15:54
13C2-PFDoA	71.4	10-150		10/23/24 15:54
13C2-PFTeDA	61.4	10-130		10/23/24 15:54
13C3-PFBS	88.5	55-150		10/23/24 15:54
13C3-PFHxS	86.0	55-150		10/23/24 15:54
13C8-PFOS	85.6	45-140		10/23/24 15:54
13C2-4:2FTS	91.8	60-200		10/23/24 15:54
13C2-6:2FTS	89.1	60-200		10/23/24 15:54
13C2-8:2FTS	77.5	50-200		10/23/24 15:54
13C8-PFOSA	88.2	30-130		10/23/24 15:54
D3-NMeFOSA	70.8	15-130		10/23/24 15:54
D5-NEtFOSA	69.5	10-130		10/23/24 15:54
D3-NMeFOSAA	87.5	45-200		10/23/24 15:54
D5-NEtFOSAA	89.2	10-200		10/23/24 15:54
D7-NMeFOSE	76.1	10-150		10/23/24 15:54
D9-NEtFOSE	69.4	10-150		10/23/24 15:54
13C3-HFPO-DA	85.7	25-160		10/23/24 15:54

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1556

Date Received: 10/9/2024

Field Sample #: GWG-18 | Sampled: 10/8/2024 11:10

Sample ID: 24J1556-09

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	2700	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1556-04 [SB-14-1]	B389426	5.00	5.00	10/15/24
24J1556-05 [SB-14-8]	B389426	5.00	5.00	10/15/24
24J1556-07 [SB-18-1]	B389426	5.00	5.00	10/15/24
24J1556-08 [SB-18-20]	B389426	5.00	5.00	10/15/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J1556-01 [GWG-1]	B389019	50.0	10/11/24
24J1556-02 [GWG-4]	B389019	50.0	10/11/24
24J1556-03 [GWG-20]	B389019	35.0	10/11/24
24J1556-09 [GWG-18]	B389019	50.0	10/11/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J1556-06 [EB-03]	B389033	50.0	10/11/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/11/2024 per NO PREP in Batch B389019**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J1556-01 [GWG-1]	B389765	513	5.00	10/22/24
24J1556-02 [GWG-4]	B389765	513	5.00	10/22/24
24J1556-03 [GWG-20]	B389765	510	5.00	10/22/24
24J1556-06 [EB-03]	B389765	480	5.00	10/22/24
24J1556-09 [GWG-18]	B389765	533	5.00	10/22/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J1556-04 [SB-14-1]	B389037	10/11/24
24J1556-05 [SB-14-8]	B389037	10/11/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J1556-07 [SB-18-1]	B389504	10/16/24
24J1556-08 [SB-18-20]	B389504	10/16/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633										
Blank (B389426-BLK1)				Prepared: 10/15/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							PF-17C
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet							
Surrogate: 13C4-PFBA	*8.90*		µg/kg wet	10.00		89.0	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633											
Blank (B389426-BLK1)				Prepared: 10/15/24 Analyzed: 10/24/24							
Surrogate: 13C5-PFPeA	*4.64*		µg/kg wet	5.000		92.8		35-150			
Surrogate: 13C5-PFHxA	*2.29*		µg/kg wet	2.500		91.5		55-150			
Surrogate: 13C4-PFHpA	*2.33*		µg/kg wet	2.500		93.2		55-150			
Surrogate: 13C8-PFOA	*2.36*		µg/kg wet	2.500		94.5		60-140			
Surrogate: 13C9-PFNA	*1.14*		µg/kg wet	1.250		90.8		55-140			
Surrogate: 13C6-PFDA	*1.28*		µg/kg wet	1.250		102		50-140			
Surrogate: 13C7-PFUnA	*1.21*		µg/kg wet	1.250		96.5		30-140			
Surrogate: 13C2-PFDoA	*1.12*		µg/kg wet	1.250		89.6		10-150			
Surrogate: 13C2-PFTeDA	*1.16*		µg/kg wet	1.250		92.8		10-130			
Surrogate: 13C3-PFBS	*2.40*		µg/kg wet	2.500		96.1		55-150			
Surrogate: 13C3-PFHxS	*2.26*		µg/kg wet	2.500		90.6		55-150			
Surrogate: 13C8-PFOS	*2.45*		µg/kg wet	2.500		97.9		45-140			
Surrogate: 13C2-4:2FTS	*5.08*		µg/kg wet	5.000		102		60-200			
Surrogate: 13C2-6:2FTS	*4.85*		µg/kg wet	5.000		97.0		60-200			
Surrogate: 13C2-8:2FTS	*4.39*		µg/kg wet	5.000		87.8		50-200			
Surrogate: 13C8-PFOSA	*2.24*		µg/kg wet	2.500		89.4		30-130			
Surrogate: D3-NMeFOSA	*0.141*		µg/kg wet	2.500		**5.66**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.0305*		µg/kg wet	2.500		**1.22**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*5.04*		µg/kg wet	5.000		101		45-200			
Surrogate: D5-NEtFOSAA	*5.12*		µg/kg wet	5.000		102		10-200			
Surrogate: D7-NMeFOSE	*8.65*		µg/kg wet	25.00		34.6		10-150			
Surrogate: D9-NEtFOSE	*6.90*		µg/kg wet	25.00		27.6		10-150			
Surrogate: 13C3-HFPO-DA	*8.95*		µg/kg wet	10.00		89.5		25-160			
LCS (B389426-BS1)				Prepared: 10/15/24 Analyzed: 10/24/24							
Perfluorobutanoic acid (PFBA)	9.56	0.80	µg/kg wet	9.600		99.6		58-148			
Perfluoropentanoic acid (PFPeA)	4.61	0.40	µg/kg wet	4.800		96.0		54-152			
Perfluorohexanoic acid (PFHxA)	2.40	0.20	µg/kg wet	2.400		100		55-152			
Perfluoroheptanoic acid (PFHpA)	2.28	0.20	µg/kg wet	2.400		95.2		54-154			
Perfluorooctanoic acid (PFOA)	2.45	0.20	µg/kg wet	2.400		102		52-161			
Perfluorononanoic acid (PFNA)	2.31	0.20	µg/kg wet	2.400		96.4		59-149			
Perfluorodecanoic acid (PFDA)	2.26	0.20	µg/kg wet	2.400		94.2		52-147			
Perfluoroundecanoic acid (PFUnA)	2.38	0.20	µg/kg wet	2.400		99.0		48-159			
Perfluorododecanoic acid (PFDoA)	2.37	0.20	µg/kg wet	2.400		98.6		64-142			
Perfluorotridecanoic acid (PFTrDA)	2.41	0.20	µg/kg wet	2.400		100		49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.52	0.20	µg/kg wet	2.400		105		47-161			
Perfluorobutanesulfonic acid (PFBS)	2.06	0.20	µg/kg wet	2.130		96.6		62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.22	0.20	µg/kg wet	2.256		98.5		59-151			
Perfluorohexanesulfonic acid (PFHxS)	2.06	0.20	µg/kg wet	2.196		93.8		57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.21	0.20	µg/kg wet	2.286		96.7		55-152			
Perfluorooctanesulfonic acid (PFOS)	1.99	0.20	µg/kg wet	2.226		89.2		58-149			
Perfluorononanesulfonic acid (PFNS)	2.14	0.20	µg/kg wet	2.310		92.7		52-148			
Perfluorodecanesulfonic acid (PFDS)	2.28	0.20	µg/kg wet	2.316		98.4		51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.07	0.20	µg/kg wet	2.328		89.1		36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.2	0.80	µg/kg wet	9.000		113		67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.3	0.80	µg/kg wet	9.120		112		61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	9.39	0.80	µg/kg wet	9.240		102		63-152			
Perfluorooctanesulfonamide (PFOSA)	2.36	0.20	µg/kg wet	2.400		98.4		61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.28	0.20	µg/kg wet	2.400		94.9		63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633										
LCS (B389426-BS1)				Prepared: 10/15/24 Analyzed: 10/24/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.32	0.20	µg/kg wet	2.400		96.8	65-139			
N-MeFOSAA (NMeFOSAA)	2.31	0.20	µg/kg wet	2.400		96.4	58-144			
N-EtFOSAA (NEtFOSAA)	2.18	0.20	µg/kg wet	2.400		90.7	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	22.2	2.0	µg/kg wet	24.00		92.6	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	23.0	2.0	µg/kg wet	24.00		95.9	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.14	0.80	µg/kg wet	9.600		95.2	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.55	0.80	µg/kg wet	9.060		94.4	68-146			
9Cl-PF3ONS (F53B Minor)	7.84	0.80	µg/kg wet	9.000		87.1	56-156			
11Cl-PF3OUdS (F53B Major)	7.41	0.80	µg/kg wet	9.060		81.8	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	20.8	2.0	µg/kg wet	24.00		86.5	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	102	10	µg/kg wet	120.0		85.1	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	98.6	10	µg/kg wet	120.0		82.2	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.94	0.40	µg/kg wet	4.272		116	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.15	0.40	µg/kg wet	4.800		107	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.47	0.40	µg/kg wet	4.800		114	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.81	0.40	µg/kg wet	4.800		121	48-161			
Surrogate: 13C4-PFBA	*9.37*		µg/kg wet	10.00		93.7	10-130			
Surrogate: 13C5-PFPeA	*5.02*		µg/kg wet	5.000		100	35-150			
Surrogate: 13C5-PFHxA	*2.48*		µg/kg wet	2.500		99.2	55-150			
Surrogate: 13C4-PFHpA	*2.59*		µg/kg wet	2.500		103	55-150			
Surrogate: 13C8-PFOA	*2.50*		µg/kg wet	2.500		99.9	60-140			
Surrogate: 13C9-PFNA	*1.31*		µg/kg wet	1.250		105	55-140			
Surrogate: 13C6-PFDA	*1.32*		µg/kg wet	1.250		106	50-140			
Surrogate: 13C7-PFUnA	*1.28*		µg/kg wet	1.250		102	30-140			
Surrogate: 13C2-PFDoA	*1.24*		µg/kg wet	1.250		99.5	10-150			
Surrogate: 13C2-PFTeDA	*1.17*		µg/kg wet	1.250		93.8	10-130			
Surrogate: 13C3-PFBS	*2.86*		µg/kg wet	2.500		115	55-150			
Surrogate: 13C3-PFHxS	*2.68*		µg/kg wet	2.500		107	55-150			
Surrogate: 13C8-PFOS	*2.68*		µg/kg wet	2.500		107	45-140			
Surrogate: 13C2-4:2FTS	*5.44*		µg/kg wet	5.000		109	60-200			
Surrogate: 13C2-6:2FTS	*5.39*		µg/kg wet	5.000		108	60-200			
Surrogate: 13C2-8:2FTS	*5.13*		µg/kg wet	5.000		103	50-200			
Surrogate: 13C8-PFOSA	*2.51*		µg/kg wet	2.500		100	30-130			
Surrogate: D3-NMeFOSA	*1.19*		µg/kg wet	2.500		47.7	15-130			
Surrogate: D5-NEtFOSA	*0.719*		µg/kg wet	2.500		28.8	10-130			
Surrogate: D3-NMeFOSAA	*5.42*		µg/kg wet	5.000		108	45-200			
Surrogate: D5-NEtFOSAA	*5.59*		µg/kg wet	5.000		112	10-200			
Surrogate: D7-NMeFOSE	*20.8*		µg/kg wet	25.00		83.3	10-150			
Surrogate: D9-NEtFOSE	*19.8*		µg/kg wet	25.00		79.4	10-150			
Surrogate: 13C3-HFPO-DA	*9.88*		µg/kg wet	10.00		98.8	25-160			
MRL Check (B389426-MRL1)				Prepared: 10/15/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	0.733	0.80	µg/kg wet	0.8000		91.7	44-157			
Perfluoropentanoic acid (PFPeA)	0.410	0.40	µg/kg wet	0.4000		103	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633										
MRL Check (B389426-MRL1)				Prepared: 10/15/24 Analyzed: 10/24/24						
Perfluorohexanoic acid (PFHxA)	0.219	0.20	µg/kg wet	0.2000		110	62-149			
Perfluoroheptanoic acid (PFHpA)	0.211	0.20	µg/kg wet	0.2000		105	56-150			
Perfluorooctanoic acid (PFOA)	0.223	0.20	µg/kg wet	0.2000		111	57-161			
Perfluorononanoic acid (PFNA)	0.200	0.20	µg/kg wet	0.2000		100	53-157			
Perfluorodecanoic acid (PFDA)	0.205	0.20	µg/kg wet	0.2000		103	43-158			
Perfluoroundecanoic acid (PFUnA)	0.216	0.20	µg/kg wet	0.2000		108	50-155			
Perfluorododecanoic acid (PFDoA)	0.213	0.20	µg/kg wet	0.2000		107	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.233	0.20	µg/kg wet	0.2000		117	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.221	0.20	µg/kg wet	0.2000		111	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.186	0.20	µg/kg wet	0.1774		105	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.194	0.20	µg/kg wet	0.1882		103	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.190	0.20	µg/kg wet	0.1828		104	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.195	0.20	µg/kg wet	0.1906		102	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.218	0.20	µg/kg wet	0.1856		118	43-162			
Perfluorononanesulfonic acid (PFNS)	0.198	0.20	µg/kg wet	0.1924		103	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.211	0.20	µg/kg wet	0.1930		109	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.213	0.20	µg/kg wet	0.1940		110	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.896	0.80	µg/kg wet	0.7500		119	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.957	0.80	µg/kg wet	0.7600		126	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.930	0.80	µg/kg wet	0.7680		121	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.231	0.20	µg/kg wet	0.2000		115	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.290	0.20	µg/kg wet	0.2000		145	54-155			PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.271	0.20	µg/kg wet	0.2000		136	49-156			PF-17C
N-MeFOSAA (NMeFOSAA)	0.269	0.20	µg/kg wet	0.2000		134	32-160			
N-EtFOSAA (NEtFOSAA)	0.202	0.20	µg/kg wet	0.2000		101	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	2.10	2.0	µg/kg wet	2.000		105	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	2.23	2.0	µg/kg wet	2.000		111	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.769	0.80	µg/kg wet	0.8000		96.1	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.700	0.80	µg/kg wet	0.7560		92.6	61-148			
9Cl-PF3ONS (F53B Minor)	0.626	0.80	µg/kg wet	0.7480		83.7	44-167			
11Cl-PF3OUdS (F53B Major)	0.571	0.80	µg/kg wet	0.7560		75.5	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.81	2.0	µg/kg wet	2.000		90.4	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	8.44	10	µg/kg wet	10.00		84.4	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	7.59	10	µg/kg wet	10.00		75.9	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.323	0.40	µg/kg wet	0.3560		90.7	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.358	0.40	µg/kg wet	0.4000		89.6	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.369	0.40	µg/kg wet	0.4000		92.3	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.396	0.40	µg/kg wet	0.4000		98.9	47-160			
Surrogate: 13C4-PFBA	*8.73*		µg/kg wet	10.00		87.3	10-130			
Surrogate: 13C5-PFPeA	*4.48*		µg/kg wet	5.000		89.6	35-150			
Surrogate: 13C5-PFHxA	*2.25*		µg/kg wet	2.500		90.1	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633											
MRL Check (B389426-MRL1)				Prepared: 10/15/24 Analyzed: 10/24/24							
Surrogate: 13C4-PFHpA	*2.29*		µg/kg wet	2.500		91.5		55-150			
Surrogate: 13C8-PFOA	*2.28*		µg/kg wet	2.500		91.2		60-140			
Surrogate: 13C9-PFNA	*1.17*		µg/kg wet	1.250		93.9		55-140			
Surrogate: 13C6-PFDA	*1.17*		µg/kg wet	1.250		93.3		50-140			
Surrogate: 13C7-PFUnA	*1.12*		µg/kg wet	1.250		89.9		30-140			
Surrogate: 13C2-PFDoA	*1.07*		µg/kg wet	1.250		85.6		10-150			
Surrogate: 13C2-PFTeDA	*1.06*		µg/kg wet	1.250		84.9		10-130			
Surrogate: 13C3-PFBS	*2.45*		µg/kg wet	2.500		98.1		55-150			
Surrogate: 13C3-PFHxS	*2.34*		µg/kg wet	2.500		93.7		55-150			
Surrogate: 13C8-PFOS	*2.32*		µg/kg wet	2.500		93.0		45-140			
Surrogate: 13C2-4:2FTS	*5.05*		µg/kg wet	5.000		101		60-200			
Surrogate: 13C2-6:2FTS	*4.66*		µg/kg wet	5.000		93.1		60-200			
Surrogate: 13C2-8:2FTS	*4.18*		µg/kg wet	5.000		83.5		50-200			
Surrogate: 13C8-PFOSA	*2.03*		µg/kg wet	2.500		81.2		30-130			
Surrogate: D3-NMeFOSA	*0.353*		µg/kg wet	2.500		**14.1**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.116*		µg/kg wet	2.500		**4.64**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*4.86*		µg/kg wet	5.000		97.1		45-200			
Surrogate: D5-NEtFOSAA	*4.86*		µg/kg wet	5.000		97.1		10-200			
Surrogate: D7-NMeFOSE	*13.4*		µg/kg wet	25.00		53.7		10-150			
Surrogate: D9-NEtFOSE	*11.2*		µg/kg wet	25.00		44.9		10-150			
Surrogate: 13C3-HFPO-DA	*8.84*		µg/kg wet	10.00		88.4		25-160			
Matrix Spike (B389426-MS2)	**Source: 24J1556-08**			Prepared: 10/15/24 Analyzed: 10/24/24							
Perfluorobutanoic acid (PFBA)	11.0	0.87	µg/kg dry	10.47	ND	105		58-148			
Perfluoropentanoic acid (PFPeA)	5.73	0.44	µg/kg dry	5.236	ND	109		54-152			
Perfluorohexanoic acid (PFHxA)	2.89	0.22	µg/kg dry	2.618	ND	110		55-152			
Perfluoroheptanoic acid (PFHpA)	2.77	0.22	µg/kg dry	2.618	ND	106		54-154			
Perfluorooctanoic acid (PFOA)	2.87	0.22	µg/kg dry	2.618	ND	110		52-161			
Perfluorononanoic acid (PFNA)	2.63	0.22	µg/kg dry	2.618	ND	100		59-149			
Perfluorodecanoic acid (PFDA)	2.78	0.22	µg/kg dry	2.618	ND	106		52-147			
Perfluoroundecanoic acid (PFUnA)	2.83	0.22	µg/kg dry	2.618	ND	108		48-159			
Perfluorododecanoic acid (PFDoA)	2.89	0.22	µg/kg dry	2.618	ND	110		64-142			
Perfluorotridecanoic acid (PFTrDA)	2.86	0.22	µg/kg dry	2.618	ND	109		49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.84	0.22	µg/kg dry	2.618	ND	109		47-161			
Perfluorobutanesulfonic acid (PFBS)	2.52	0.22	µg/kg dry	2.324	ND	108		62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.74	0.22	µg/kg dry	2.461	ND	111		59-151			
Perfluorohexanesulfonic acid (PFHxS)	2.48	0.22	µg/kg dry	2.396	ND	104		57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.64	0.22	µg/kg dry	2.494	ND	106		55-152			
Perfluorooctanesulfonic acid (PFOS)	2.61	0.22	µg/kg dry	2.428	0.140	102		58-149			
Perfluorononanesulfonic acid (PFNS)	2.61	0.22	µg/kg dry	2.520	ND	104		52-148			
Perfluorodecanesulfonic acid (PFDS)	2.77	0.22	µg/kg dry	2.527	ND	110		51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.53	0.22	µg/kg dry	2.540	ND	99.6		36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.4	0.87	µg/kg dry	9.818	ND	116		67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	12.2	0.87	µg/kg dry	9.949	ND	122		61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	13.4	0.87	µg/kg dry	10.08	ND	133		63-152			
Perfluorooctanesulfonamide (PFOSA)	2.86	0.22	µg/kg dry	2.618	ND	109		61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.93	0.22	µg/kg dry	2.618	ND	112		63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.64	0.22	µg/kg dry	2.618	ND	101		65-139			
N-MeFOSAA (NMeFOSAA)	2.91	0.22	µg/kg dry	2.618	ND	111		58-144			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633										
Matrix Spike (B389426-MS2)	**Source: 24J1556-08**			Prepared: 10/15/24 Analyzed: 10/24/24						
N-EtFOSAA (NEtFOSAA)	2.65	0.22	µg/kg dry	2.618	ND	101	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	26.6	2.2	µg/kg dry	26.18	0.250	100	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	27.1	2.2	µg/kg dry	26.18	ND	103	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.1	0.87	µg/kg dry	10.47	ND	96.8	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.20	0.87	µg/kg dry	9.884	ND	93.1	68-146			
9Cl-PF3ONS (F53B Minor)	8.60	0.87	µg/kg dry	9.818	ND	87.6	56-156			
11Cl-PF3OUdS (F53B Major)	7.86	0.87	µg/kg dry	9.884	ND	79.5	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	24.3	2.2	µg/kg dry	26.18	ND	92.8	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	119	11	µg/kg dry	130.9	ND	90.8	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	118	11	µg/kg dry	130.9	ND	90.1	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	6.15	0.44	µg/kg dry	4.660	ND	132	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.65	0.44	µg/kg dry	5.236	ND	127	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	7.09	0.44	µg/kg dry	5.236	ND	135	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	7.36	0.44	µg/kg dry	5.236	ND	141	48-161			
Surrogate: 13C4-PFBA	*9.21*		µg/kg dry	10.91		84.4	10-130			
Surrogate: 13C5-PFPeA	*4.49*		µg/kg dry	5.455		82.3	35-150			
Surrogate: 13C5-PFHxA	*2.30*		µg/kg dry	2.727		84.3	55-150			
Surrogate: 13C4-PFHpA	*2.39*		µg/kg dry	2.727		87.5	55-150			
Surrogate: 13C8-PFOA	*2.23*		µg/kg dry	2.727		81.9	60-140			
Surrogate: 13C9-PFNA	*1.26*		µg/kg dry	1.364		92.8	55-140			
Surrogate: 13C6-PFDA	*1.29*		µg/kg dry	1.364		94.8	50-140			
Surrogate: 13C7-PFUnA	*1.23*		µg/kg dry	1.364		89.8	30-140			
Surrogate: 13C2-PFDoA	*1.21*		µg/kg dry	1.364		88.5	10-150			
Surrogate: 13C2-PFTeDA	*1.15*		µg/kg dry	1.364		84.1	10-130			
Surrogate: 13C3-PFBS	*2.53*		µg/kg dry	2.727		92.7	55-150			
Surrogate: 13C3-PFHxS	*2.39*		µg/kg dry	2.727		87.5	55-150			
Surrogate: 13C8-PFOS	*2.42*		µg/kg dry	2.727		88.6	45-140			
Surrogate: 13C2-4:2FTS	*5.26*		µg/kg dry	5.455		96.4	60-200			
Surrogate: 13C2-6:2FTS	*4.95*		µg/kg dry	5.455		90.8	60-200			
Surrogate: 13C2-8:2FTS	*4.15*		µg/kg dry	5.455		76.1	50-200			
Surrogate: 13C8-PFOSA	*2.20*		µg/kg dry	2.727		80.6	30-130			
Surrogate: D3-NMeFOSA	*1.18*		µg/kg dry	2.727		43.2	15-130			
Surrogate: D5-NEtFOSA	*0.798*		µg/kg dry	2.727		29.3	10-130			
Surrogate: D3-NMeFOSAA	*4.88*		µg/kg dry	5.455		89.5	45-200			
Surrogate: D5-NEtFOSAA	*4.95*		µg/kg dry	5.455		90.8	10-200			
Surrogate: D7-NMeFOSE	*17.9*		µg/kg dry	27.27		65.6	10-150			
Surrogate: D9-NEtFOSE	*16.5*		µg/kg dry	27.27		60.6	10-150			
Surrogate: 13C3-HFPO-DA	*9.59*		µg/kg dry	10.91		87.9	25-160			
Matrix Spike Dup (B389426-MSD2)	**Source: 24J1556-08**			Prepared: 10/15/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	10.7	0.87	µg/kg dry	10.47	ND	102	58-148	2.50	20	PF-17C
Perfluoropentanoic acid (PFPeA)	5.67	0.44	µg/kg dry	5.236	ND	108	54-152	1.10	20	S-29
Perfluorohexanoic acid (PFHxA)	2.96	0.22	µg/kg dry	2.618	ND	113	55-152	2.13	25	
Perfluoroheptanoic acid (PFHpA)	2.76	0.22	µg/kg dry	2.618	ND	105	54-154	0.223	25	
Perfluorooctanoic acid (PFOA)	2.88	0.22	µg/kg dry	2.618	ND	110	52-161	0.177	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B389426 - Draft Method 1633												
Matrix Spike Dup (B389426-MSD2)	**Source: 24J1556-08**			Prepared: 10/15/24 Analyzed: 10/24/24								
Perfluorononanoic acid (PFNA)	2.47	0.22	µg/kg dry	2.618	ND	94.2		59-149	6.30		25	
Perfluorodecanoic acid (PFDA)	2.55	0.22	µg/kg dry	2.618	ND	97.4		52-147	8.57		25	
Perfluoroundecanoic acid (PFUnA)	2.78	0.22	µg/kg dry	2.618	ND	106		48-159	1.89		30	
Perfluorododecanoic acid (PFDoA)	2.92	0.22	µg/kg dry	2.618	ND	111		64-142	0.984		25	
Perfluorotridecanoic acid (PFTrDA)	2.99	0.22	µg/kg dry	2.618	ND	114		49-148	4.22		25	
Perfluorotetradecanoic acid (PFTeDA)	2.87	0.22	µg/kg dry	2.618	ND	110		47-161	0.861		25	
Perfluorobutanesulfonic acid (PFBS)	2.42	0.22	µg/kg dry	2.324	ND	104		62-144	3.99		20	
Perfluoropentanesulfonic acid (PFPeS)	2.58	0.22	µg/kg dry	2.461	ND	105		59-151	5.78		25	
Perfluorohexanesulfonic acid (PFHxS)	2.52	0.22	µg/kg dry	2.396	ND	105		57-146	1.38		25	
Perfluoroheptanesulfonic acid (PFHpS)	2.82	0.22	µg/kg dry	2.494	ND	113		55-152	6.79		25	
Perfluorooctanesulfonic acid (PFOS)	2.50	0.22	µg/kg dry	2.428	0.140	97.3		58-149	4.15		20	
Perfluorononanesulfonic acid (PFNS)	2.57	0.22	µg/kg dry	2.520	ND	102		52-148	1.43		25	
Perfluorodecanesulfonic acid (PFDS)	2.56	0.22	µg/kg dry	2.527	ND	101		51-147	7.72		25	
Perfluorododecanesulfonic acid (PFDoS)	2.16	0.22	µg/kg dry	2.540	ND	85.0		36-145	15.8		30	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.4	0.87	µg/kg dry	9.818	ND	116		67-146	0.295		25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	12.0	0.87	µg/kg dry	9.949	ND	121		61-151	0.971		30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.5	0.87	µg/kg dry	10.08	ND	114		63-152	15.2		30	
Perfluorooctanesulfonamide (PFOSA)	2.82	0.22	µg/kg dry	2.618	ND	108		61-148	1.30		20	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.47	0.22	µg/kg dry	2.618	ND	94.2		63-145	17.2		25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.40	0.22	µg/kg dry	2.618	ND	91.5		65-139	9.79		25	
N-MeFOSAA (NMeFOSAA)	2.72	0.22	µg/kg dry	2.618	ND	104		58-144	6.67		25	
N-EtFOSAA (NEtFOSAA)	2.52	0.22	µg/kg dry	2.618	ND	96.2		59-146	5.14		25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	24.9	2.2	µg/kg dry	26.18	0.250	94.1		71-136	6.54		20	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	25.2	2.2	µg/kg dry	26.18	ND	96.2		69-137	7.18		25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.0	0.87	µg/kg dry	10.47	ND	105		63-144	8.00		25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.4	0.87	µg/kg dry	9.884	ND	105		68-146	12.4		20	
9Cl-PF3ONS (F53B Minor)	9.61	0.87	µg/kg dry	9.818	ND	97.9		56-156	11.1		30	
11Cl-PF3OUdS (F53B Major)	8.69	0.87	µg/kg dry	9.884	ND	87.9		46-156	10.0		35	
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	15.4	2.2	µg/kg dry	26.18	ND	**58.9**	*	62-129	**44.6**	*	20	MS-23
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	145	11	µg/kg dry	130.9	ND	111		63-134	19.9		20	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	171	11	µg/kg dry	130.9	ND	131		50-138	**36.8**	*	25	R-06
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.11	0.44	µg/kg dry	4.660	ND	88.2		56-151	**39.7**	*	20	R-06
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.33	0.44	µg/kg dry	5.236	ND	**25.4**	*	51-145	**133**	*	25	R-06
Perfluoro-4-methoxybutanoic acid (PFMBA)	7.00	0.44	µg/kg dry	5.236	ND	134		55-148	1.26		20	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.67	0.44	µg/kg dry	5.236	ND	70.0		48-161	**67.0**	*	35	R-06
Surrogate: 13C4-PFBA	*1.00*		µg/kg dry	10.91		**9.20**	*	10-130				PF-17C
Surrogate: 13C5-PFPeA	*1.61*		µg/kg dry	5.455		**29.6**	*	35-150				S-29
Surrogate: 13C5-PFHxA	*2.23*		µg/kg dry	2.727		81.6		55-150				
Surrogate: 13C4-PFHpA	*2.37*		µg/kg dry	2.727		87.1		55-150				
Surrogate: 13C8-PFOA	*2.34*		µg/kg dry	2.727		85.8		60-140				
Surrogate: 13C9-PFNA	*1.27*		µg/kg dry	1.364		93.4		55-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389426 - Draft Method 1633										
Matrix Spike Dup (B389426-MSD2)	**Source: 24J1556-08**			Prepared: 10/15/24 Analyzed: 10/24/24						
Surrogate: 13C6-PFDA	*1.25*		µg/kg dry	1.364		91.5	50-140			
Surrogate: 13C7-PFUnA	*1.15*		µg/kg dry	1.364		84.0	30-140			
Surrogate: 13C2-PFDoA	*1.17*		µg/kg dry	1.364		85.8	10-150			
Surrogate: 13C2-PFTeDA	*1.07*		µg/kg dry	1.364		78.7	10-130			
Surrogate: 13C3-PFBS	*2.38*		µg/kg dry	2.727		87.3	55-150			
Surrogate: 13C3-PFHxS	*2.50*		µg/kg dry	2.727		91.6	55-150			
Surrogate: 13C8-PFOS	*2.52*		µg/kg dry	2.727		92.5	45-140			
Surrogate: 13C2-4:2FTS	*7.95*		µg/kg dry	5.455		146	60-200			
Surrogate: 13C2-6:2FTS	*8.74*		µg/kg dry	5.455		160	60-200			
Surrogate: 13C2-8:2FTS	*9.20*		µg/kg dry	5.455		169	50-200			
Surrogate: 13C8-PFOSA	*2.56*		µg/kg dry	2.727		93.7	30-130			
Surrogate: D3-NMeFOSA	*1.14*		µg/kg dry	2.727		41.9	15-130			
Surrogate: D5-NEtFOSA	*0.709*		µg/kg dry	2.727		26.0	10-130			
Surrogate: D3-NMeFOSAA	*6.29*		µg/kg dry	5.455		115	45-200			
Surrogate: D5-NEtFOSAA	*7.43*		µg/kg dry	5.455		136	10-200			
Surrogate: D7-NMeFOSE	*8.30*		µg/kg dry	27.27		30.4	10-150			
Surrogate: D9-NEtFOSE	*5.69*		µg/kg dry	27.27		20.9	10-150			
Surrogate: 13C3-HFPO-DA	*8.72*		µg/kg dry	10.91		79.9	25-160			
Batch B389765 - Draft Method 1633										
Blank (B389765-BLK1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389765 - Draft Method 1633										
Blank (B389765-BLK1)				Prepared: 10/22/24 Analyzed: 10/23/24						
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*84.5*		ng/L	98.96		85.4	10-130			
Surrogate: 13C5-PFPeA	*39.3*		ng/L	49.48		79.4	35-150			
Surrogate: 13C5-PFHxA	*18.7*		ng/L	24.74		75.6	55-150			
Surrogate: 13C4-PFHpA	*19.1*		ng/L	24.74		77.4	55-150			
Surrogate: 13C8-PFOA	*20.4*		ng/L	24.74		82.5	60-140			
Surrogate: 13C9-PFNA	*9.85*		ng/L	12.37		79.7	55-140			
Surrogate: 13C6-PFDA	*9.83*		ng/L	12.37		79.5	50-140			
Surrogate: 13C7-PFUnA	*9.28*		ng/L	12.37		75.0	30-140			
Surrogate: 13C2-PFDoA	*9.27*		ng/L	12.37		74.9	10-150			
Surrogate: 13C2-PFTeDA	*8.48*		ng/L	12.37		68.6	10-130			
Surrogate: 13C3-PFBS	*20.5*		ng/L	24.74		83.1	55-150			
Surrogate: 13C3-PFHxS	*19.1*		ng/L	24.74		77.3	55-150			
Surrogate: 13C8-PFOS	*19.6*		ng/L	24.74		79.3	45-140			
Surrogate: 13C2-4:2FTS	*39.6*		ng/L	49.48		80.1	60-200			
Surrogate: 13C2-6:2FTS	*38.1*		ng/L	49.48		77.0	60-200			
Surrogate: 13C2-8:2FTS	*34.2*		ng/L	49.48		69.2	50-200			
Surrogate: 13C8-PFOSA	*18.2*		ng/L	24.74		73.5	30-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	24.74		58.7	15-130			
Surrogate: D5-NEtFOSA	*16.2*		ng/L	24.74		65.6	10-130			
Surrogate: D3-NMeFOSAA	*37.5*		ng/L	49.48		75.8	45-200			
Surrogate: D5-NEtFOSAA	*37.4*		ng/L	49.48		75.5	10-200			
Surrogate: D7-NMeFOSE	*171*		ng/L	247.4		69.0	10-150			
Surrogate: D9-NEtFOSE	*167*		ng/L	247.4		67.4	10-150			
Surrogate: 13C3-HFPO-DA	*78.0*		ng/L	98.96		78.9	25-160			
LCS (B389765-BS1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Perfluorobutanoic acid (PFBA)	108	3.9	ng/L	94.63		114	58-148			
Perfluoropentanoic acid (PFPeA)	53.4	2.0	ng/L	47.32		113	54-152			
Perfluorohexanoic acid (PFHxA)	27.6	0.99	ng/L	23.66		117	55-152			
Perfluoroheptanoic acid (PFHpA)	26.4	0.99	ng/L	23.66		112	54-154			
Perfluorooctanoic acid (PFOA)	27.2	0.99	ng/L	23.66		115	52-161			
Perfluorononanoic acid (PFNA)	26.5	0.99	ng/L	23.66		112	59-149			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389765 - Draft Method 1633										
LCS (B389765-BS1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Perfluorodecanoic acid (PFDA)	25.2	0.99	ng/L	23.66		107	52-147			
Perfluoroundecanoic acid (PFUnA)	26.8	0.99	ng/L	23.66		113	48-159			
Perfluorododecanoic acid (PFDoA)	28.0	0.99	ng/L	23.66		118	64-142			
Perfluorotridecanoic acid (PFTrDA)	26.0	0.99	ng/L	23.66		110	49-148			
Perfluorotetradecanoic acid (PFTeDA)	28.5	0.99	ng/L	23.66		121	47-161			
Perfluorobutanesulfonic acid (PFBS)	23.2	0.99	ng/L	20.98		111	62-144			
Perfluoropentanesulfonic acid (PFPeS)	25.8	0.99	ng/L	22.26		116	59-151			
Perfluorohexanesulfonic acid (PFHxS)	23.6	0.99	ng/L	21.62		109	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	27.8	0.99	ng/L	22.55		123	55-152			
Perfluorooctanesulfonic acid (PFOS)	23.9	0.99	ng/L	21.95		109	58-149			
Perfluorononanesulfonic acid (PFNS)	26.1	0.99	ng/L	22.76		115	52-148			
Perfluorodecanesulfonic acid (PFDS)	25.9	0.99	ng/L	22.83		114	51-147			
Perfluorododecanesulfonic acid (PFDoS)	25.4	0.99	ng/L	22.95		111	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	107	3.9	ng/L	88.72		120	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	114	3.9	ng/L	89.90		127	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	105	3.9	ng/L	90.85		116	63-152			
Perfluorooctanesulfonamide (PFOSA)	26.8	0.99	ng/L	23.66		113	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	24.3	0.99	ng/L	23.66		103	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	26.2	0.99	ng/L	23.66		111	65-139			
N-MeFOSAA (NMeFOSAA)	24.5	0.99	ng/L	23.66		104	58-144			
N-EtFOSAA (NEtFOSAA)	25.2	0.99	ng/L	23.66		106	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	261	9.9	ng/L	236.6		110	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	275	9.9	ng/L	236.6		116	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	107	3.9	ng/L	94.63		113	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.4	3.9	ng/L	89.43		106	68-146			
9Cl-PF3ONS (F53B Minor)	89.0	3.9	ng/L	88.48		101	56-156			
11Cl-PF3OUdS (F53B Major)	83.8	3.9	ng/L	89.43		93.7	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	278	9.9	ng/L	236.6		117	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1310	49	ng/L	1183		111	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1180	49	ng/L	1183		100	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	57.4	2.0	ng/L	42.11		136	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	2.0	ng/L	47.32		128	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	65.3	2.0	ng/L	47.32		138	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	65.3	2.0	ng/L	47.32		138	48-161			
Surrogate: 13C4-PFBA	*79.7*		ng/L	98.58		80.9	10-130			
Surrogate: 13C5-PFPeA	*36.6*		ng/L	49.29		74.3	35-150			
Surrogate: 13C5-PFHxA	*17.9*		ng/L	24.64		72.5	55-150			
Surrogate: 13C4-PFHpA	*17.9*		ng/L	24.64		72.8	55-150			
Surrogate: 13C8-PFOA	*18.0*		ng/L	24.64		72.9	60-140			
Surrogate: 13C9-PFNA	*8.89*		ng/L	12.32		72.1	55-140			
Surrogate: 13C6-PFDA	*9.34*		ng/L	12.32		75.8	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389765 - Draft Method 1633										
LCS (B389765-BS1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Surrogate: 13C7-PFUnA	*8.71*		ng/L	12.32		70.7	30-140			
Surrogate: 13C2-PFDoA	*8.07*		ng/L	12.32		65.5	10-150			
Surrogate: 13C2-PFTeDA	*7.54*		ng/L	12.32		61.2	10-130			
Surrogate: 13C3-PFBS	*19.2*		ng/L	24.64		77.8	55-150			
Surrogate: 13C3-PFHxS	*18.2*		ng/L	24.64		73.8	55-150			
Surrogate: 13C8-PFOS	*16.9*		ng/L	24.64		68.7	45-140			
Surrogate: 13C2-4:2FTS	*35.2*		ng/L	49.29		71.5	60-200			
Surrogate: 13C2-6:2FTS	*34.7*		ng/L	49.29		70.5	60-200			
Surrogate: 13C2-8:2FTS	*32.1*		ng/L	49.29		65.1	50-200			
Surrogate: 13C8-PFOSA	*16.7*		ng/L	24.64		67.6	30-130			
Surrogate: D3-NMeFOSA	*13.9*		ng/L	24.64		56.3	15-130			
Surrogate: D5-NEtFOSA	*14.0*		ng/L	24.64		57.0	10-130			
Surrogate: D3-NMeFOSAA	*35.7*		ng/L	49.29		72.3	45-200			
Surrogate: D5-NEtFOSAA	*34.2*		ng/L	49.29		69.5	10-200			
Surrogate: D7-NMeFOSE	*153*		ng/L	246.4		62.2	10-150			
Surrogate: D9-NEtFOSE	*138*		ng/L	246.4		56.0	10-150			
Surrogate: 13C3-HFPO-DA	*74.5*		ng/L	98.58		75.5	25-160			
MRL Check (B389765-MRL1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Perfluorobutanoic acid (PFBA)	8.84	3.9	ng/L	7.787		114	44-157			
Perfluoropentanoic acid (PFPeA)	4.56	1.9	ng/L	3.893		117	57-148			
Perfluorohexanoic acid (PFHxA)	2.41	0.97	ng/L	1.947		124	62-149			
Perfluoroheptanoic acid (PFHpA)	2.24	0.97	ng/L	1.947		115	56-150			
Perfluorooctanoic acid (PFOA)	2.31	0.97	ng/L	1.947		119	57-161			
Perfluorononanoic acid (PFNA)	2.17	0.97	ng/L	1.947		111	53-157			
Perfluorodecanoic acid (PFDA)	2.36	0.97	ng/L	1.947		121	43-158			
Perfluoroundecanoic acid (PFUnA)	2.30	0.97	ng/L	1.947		118	50-155			
Perfluorododecanoic acid (PFDoA)	2.32	0.97	ng/L	1.947		119	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.09	0.97	ng/L	1.947		107	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.42	0.97	ng/L	1.947		124	52-156			
Perfluorobutanesulfonic acid (PFBS)	2.00	0.97	ng/L	1.727		116	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.21	0.97	ng/L	1.832		121	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.13	0.97	ng/L	1.779		120	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.19	0.97	ng/L	1.855		118	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.27	0.97	ng/L	1.807		125	43-162			
Perfluorononanesulfonic acid (PFNS)	2.11	0.97	ng/L	1.873		113	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.01	0.97	ng/L	1.879		107	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.96	0.97	ng/L	1.888		104	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.04	3.9	ng/L	7.300		124	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.91	3.9	ng/L	7.397		134	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	9.80	3.9	ng/L	7.475		131	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.39	0.97	ng/L	1.947		123	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.54	0.97	ng/L	1.947		130	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.80	0.97	ng/L	1.947		144	49-156			
N-MeFOSAA (NMeFOSAA)	2.42	0.97	ng/L	1.947		124	32-160			
N-EtFOSAA (NEtFOSAA)	2.22	0.97	ng/L	1.947		114	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	24.0	9.7	ng/L	19.47		124	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	25.4	9.7	ng/L	19.47		130	60-147			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389765 - Draft Method 1633										
MRL Check (B389765-MRL1)				Prepared: 10/22/24 Analyzed: 10/23/24						
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.74	3.9	ng/L	7.787		99.4	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.45	3.9	ng/L	7.359		101	61-148			
9Cl-PF3ONS (F53B Minor)	6.93	3.9	ng/L	7.281		95.1	44-167			
11Cl-PF3OUdS (F53B Major)	6.24	3.9	ng/L	7.359		84.8	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	22.1	9.7	ng/L	19.47		114	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	104	49	ng/L	97.33		107	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	89.2	49	ng/L	97.33		91.7	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.91	1.9	ng/L	3.465		113	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.12	1.9	ng/L	3.893		106	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.36	1.9	ng/L	3.893		112	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.08	1.9	ng/L	3.893		105	47-160			
Surrogate: 13C4-PFBA	*80.5*		ng/L	97.33		82.7	10-130			
Surrogate: 13C5-PFPeA	*36.3*		ng/L	48.67		74.7	35-150			
Surrogate: 13C5-PFHxA	*17.5*		ng/L	24.33		72.0	55-150			
Surrogate: 13C4-PFHpA	*17.7*		ng/L	24.33		72.7	55-150			
Surrogate: 13C8-PFOA	*18.0*		ng/L	24.33		74.0	60-140			
Surrogate: 13C9-PFNA	*8.82*		ng/L	12.17		72.5	55-140			
Surrogate: 13C6-PFDA	*8.59*		ng/L	12.17		70.6	50-140			
Surrogate: 13C7-PFUnA	*8.18*		ng/L	12.17		67.3	30-140			
Surrogate: 13C2-PFDoA	*7.65*		ng/L	12.17		62.9	10-150			
Surrogate: 13C2-PFTeDA	*6.59*		ng/L	12.17		54.2	10-130			
Surrogate: 13C3-PFBS	*19.8*		ng/L	24.33		81.6	55-150			
Surrogate: 13C3-PFHxS	*18.1*		ng/L	24.33		74.4	55-150			
Surrogate: 13C8-PFOS	*17.9*		ng/L	24.33		73.5	45-140			
Surrogate: 13C2-4:2FTS	*36.3*		ng/L	48.67		74.7	60-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	48.67		76.7	60-200			
Surrogate: 13C2-8:2FTS	*30.9*		ng/L	48.67		63.6	50-200			
Surrogate: 13C8-PFOSA	*16.4*		ng/L	24.33		67.5	30-130			
Surrogate: D3-NMeFOSA	*12.1*		ng/L	24.33		49.9	15-130			
Surrogate: D5-NEtFOSA	*12.9*		ng/L	24.33		53.2	10-130			
Surrogate: D3-NMeFOSAA	*35.4*		ng/L	48.67		72.7	45-200			
Surrogate: D5-NEtFOSAA	*33.2*		ng/L	48.67		68.2	10-200			
Surrogate: D7-NMeFOSE	*145*		ng/L	243.3		59.5	10-150			
Surrogate: D9-NEtFOSE	*138*		ng/L	243.3		56.7	10-150			
Surrogate: 13C3-HFPO-DA	*70.8*		ng/L	97.33		72.7	25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389019 - Draft Method 1633										
Blank (B389019-BLK1)				Prepared & Analyzed: 10/11/24						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B389019-BS1)				Prepared & Analyzed: 10/11/24						
Total Suspended Solids	182	2.5	mg/L	200.0		91.0	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-06	Sample was extracted past the recommended holding time.
MS-23	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.
PF-17C	Extracted internal standard is outside of control limits. Analyte is a known difficult compound.
R-06	Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.
S-29	Extracted Internal Standard is outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV
Perfluorotetradecanoic acid (PFTeDA)	NH-P,PA,WV
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,WV
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,WV
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,WV
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,WV
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV
N-EtFOSAA (NEtFOSAA)	NH-P,PA,WV
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,WV
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,WV
9Cl-PF3ONS (F53B Minor)	NH-P,PA,WV
11Cl-PF3OUdS (F53B Major)	NH-P,PA,WV
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,WV
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,PA,WV
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J1556

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http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 2

Company Name: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412 269 6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time Requested
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Turnaround Time Requested
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Deliverables
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Disposal of Client Samples
○ Field Filtered
○ Lab to Filter

Disposal of Client Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	✱ PFAS EPA 1633
1	GWG-1	10/7/24	1150	G	GW				3			X
2	GWG-4	10/7/24	1300	G	GW				3			X
3	GWG-20		1610	G	GW				3			X
4	SB-14-1		1710	G	S				1			X
5	SB-14-8		1720	G	S				1			X
6	EB-03	10/8/24	0830	G	W				3			X
7	SB-18-1		1045	G	S				1			X
8	SB-18-20		1050	G	S				1			X
	SB-18-20MS		1050	G	S				1			X
	SB-18-20MSD		1050	G	S				1			X

[2] Preservation Code

Lab Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
	10/9/24 1310
Received by: (signature)	Date/Time:
Matt Pace	10/F 1328
Relinquished by: (signature)	Date/Time:
Matt Pace	10/F 1600
Received by: (signature)	Date/Time:
BSC	10-8-24 16:20
Relinquished by: (signature)	Date/Time:
Russell B Bailey	10-8-24 16:35
Received by: (signature)	Date/Time:
[illegible]	10/9/24 730
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Regulatory Requirements

MA		☐ MA MCP Required
		MCP Certification Form Required
		☐ CT RCP Required
NY		RCP Certification Form Required
		☐ MA State DW Required
Other		PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☒	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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24J1556

Pace Phone: 413-525-2332 Fax: 413-525-6405

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Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Company Name: Michael Baker Intl
Address: 100 Airside Dr
Phone: 412 269 6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time
7-Day ☐ 10-Day ☒
PFAS 15-Day (std) ☐ Due Date:

Rush (Surcharge Applies)
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Dissolved Samples
○ Field Filtered
○ Lab to Filter

Soil/Solid Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
9	GWG-18	10/8/24	1110	G	GW				3			X

[3] Preservation Code

Lab use only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Blair	10/8/24 1310
Received by: (signature)	Date/Time:
Matt PACE	10/8/24 1520
Relinquished by: (signature)	Date/Time:
Matt PACE	10/8/24 1600
Received by: (signature)	Date/Time:
BSC	10-8-24 1600
Relinquished by: (signature)	Date/Time:
Russell B Bixby	10-8-24 1635
Received by: (signature)	Date/Time:
[illegible]	10/9/24 7:30
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Regulatory Requirements
NPDES ☐
GW1 ☐
Other ☐

Special Requirements
MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client: Michael Baker Intl

Project: Sleeper town PFAS

MCP/RCP Required: MA

Deliverable Package Requirement: MA

Location: Sleepertown, PA

PWSID# (When Applicable): MA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: LA 10/14/24 730

Back-Sheet By / Date / Time: LA 10/16/24 1156

Temperature Method: Gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp ✓ < 6° C Actual Temperature: 1.7

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☐	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL	2	2	2			2			2											
Sulfuric						1	1		1	3												
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					
125 ml Plastic			1	1	1			1			1											

Qualtrax ID: 120836

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A Pace Analytical® Laboratory

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November 1, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189452
Laboratory Work Order Number: 24J1727

Enclosed are results of analyses for samples as received by the laboratory on October 10, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 11/1/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189452

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J1727

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWG-2	24J1727-01	Ground Water		Draft Method 1633	
GWG-3	24J1727-02	Ground Water		Draft Method 1633	
GWG-2.5	24J1727-03	Ground Water		Draft Method 1633	
SB-1-1	24J1727-04	Soil		Draft Method 1633	
				SM 2540G	
SB-4-1	24J1727-05	Soil		Draft Method 1633	
				SM 2540G	
SB-4-7	24J1727-06	Soil		Draft Method 1633	
				SM 2540G	
SB-2-1	24J1727-07	Soil		Draft Method 1633	
				SM 2540G	
SB-2-8	24J1727-08	Soil		Draft Method 1633	
				SM 2540G	
SB-3-1	24J1727-09	Soil		Draft Method 1633	
				SM 2540G	
SB-3-9	24J1727-10	Soil		Draft Method 1633	
				SM 2540G	
SB-1-8	24J1727-11	Soil		Draft Method 1633	
				SM 2540G	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Draft Method 1633

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

13C8-PFOSA
24J1727-06[SB-4-7]

D9-NEtFOSE
S112435-CCB5

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S112435-CCB5

Perfluorooctanesulfonamide (PFOSA)
24J1727-06[SB-4-7]

PF-17C

Extracted internal standard is outside of control limits. Analyte is a known difficult compound.

Analyte & Samples(s) Qualified:

13C2-4:2FTS
24J1727-09[SB-3-1]

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FT
24J1727-09[SB-3-1]

D3-NMeFOSA
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], 24J1727-11[SB-1-8], B389424-BLK1, B389424-MRL1

D5-NEtFOSA
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], 24J1727-11[SB-1-8], B389424-BLK1, B389424-MRL1

D7-NMeFOSE
24J1727-08[SB-2-8], 24J1727-10[SB-3-9]

D9-NEtFOSE
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], B389424-BLK1

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], 24J1727-11[SB-1-8], B389424-BLK1, B389424-MRL1

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], B389424-BLK1

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
24J1727-08[SB-2-8], 24J1727-10[SB-3-9], 24J1727-11[SB-1-8], B389424-BLK1, B389424-MRL1

N-methylperfluorooctanesulfonamidoethanol(NMeF
24J1727-08[SB-2-8], 24J1727-10[SB-3-9]

PF-18

Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.

Analyte & Samples(s) Qualified:

13C8-PFOSA
24J1727-05RE1[SB-4-1]

Perfluorooctanesulfonamide (PFOSA)
24J1727-05RE1[SB-4-1]

PF-22

Qualifier ion ratio >150% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonamide (PFOSA)
24J1727-05RE1[SB-4-1]

PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanoic acid (PFOA)
24J1727-03[GWG-2.5]

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S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C2-PFTeDA
S112944-CCV2, S113053-CCV2, S113142-CCV3

13C5-PFPeA
S112435-CCV5, S112443-CCV2

13C8-PFOSA
S112944-CCV2, S112944-CCV3, S113053-CCV2, S113142-CCV2, S113142-CCV3, S113224-CCV2

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
S112435-CCV5, S112443-CCV2

D5-NEtFOSA
S112809-CCV2, S113142-CCV3

D7-NMeFOSE
S113224-CCV2

D9-NEtFOSE
S112809-CCV2

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
S112809-CCV2

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S112809-CCV2

N-MeFOSAA (NMeFOSAA)
S113142-CCV3

N-methylperfluorooctanesulfonamidoethanol(NMeF
S113224-CCV2

Perfluoro-3-methoxypropanoic acid (PFMPA)
S112435-CCV5, S112443-CCV2

Perfluoro-4-methoxybutanoic acid (PFMBA)
S112435-CCV5, S112443-CCV2

Perfluorooctanesulfonamide (PFOSA)
S112944-CCV2, S112944-CCV3, S113053-CCV2, S113142-CCV2, S113142-CCV3, S113224-CCV2

Perfluoropentanoic acid (PFPeA)
S112435-CCV5, S112443-CCV2

Perfluorotetradecanoic acid (PFTeDA)
S112944-CCV2, S113053-CCV2, S113142-CCV3

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2 | Sampled: 10/8/2024 18:00

Sample ID: 24J1727-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	7.5	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoropentanoic acid (PFPeA)	14	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorohexanoic acid (PFHxA)	9.6	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoroheptanoic acid (PFHpA)	6.2	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorooctanoic acid (PFOA)	6.0	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorononanoic acid (PFNA)	1.1	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorobutanesulfonic acid (PFBS)	1.2	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.1	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorooctanesulfonic acid (PFOS)	1.9	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2 | Sampled: 10/8/2024 18:00

Sample ID: 24J1727-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:42	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	74.5	10-130		10/28/24 12:42
13C5-PFPeA	75.1	35-150		10/28/24 12:42
13C5-PFHxA	74.9	55-150		10/28/24 12:42
13C4-PFHpA	77.7	55-150		10/28/24 12:42
13C8-PFOA	75.6	60-140		10/28/24 12:42
13C9-PFNA	83.7	55-140		10/28/24 12:42
13C6-PFDA	82.6	50-140		10/28/24 12:42
13C7-PFUnA	73.7	30-140		10/28/24 12:42
13C2-PFDoA	81.9	10-150		10/28/24 12:42
13C2-PFTeDA	82.1	10-130		10/28/24 12:42
13C3-PFBS	84.1	55-150		10/28/24 12:42
13C3-PFHxS	75.1	55-150		10/28/24 12:42
13C8-PFOS	80.5	45-140		10/28/24 12:42
13C2-4:2FTS	94.7	60-200		10/28/24 12:42
13C2-6:2FTS	73.6	60-200		10/28/24 12:42
13C2-8:2FTS	62.3	50-200		10/28/24 12:42
13C8-PFOSA	86.5	30-130		10/28/24 12:42
D3-NMeFOSA	56.5	15-130		10/28/24 12:42
D5-NEtFOSA	59.4	10-130		10/28/24 12:42
D3-NMeFOSAA	83.3	45-200		10/28/24 12:42
D5-NEtFOSAA	87.2	10-200		10/28/24 12:42
D7-NMeFOSE	79.5	10-150		10/28/24 12:42
D9-NEtFOSE	75.2	10-150		10/28/24 12:42
13C3-HFPO-DA	75.7	25-160		10/28/24 12:42

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2 | Sampled: 10/8/2024 18:00

Sample ID: 24J1727-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	270	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-3 | Sampled: 10/8/2024 15:30

Sample ID: 24J1727-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoropentanoic acid (PFPeA)	3.5	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorohexanoic acid (PFHxA)	2.4	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoroheptanoic acid (PFHpA)	2.0	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorooctanoic acid (PFOA)	3.7	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorononanoic acid (PFNA)	1.6	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorodecanoic acid (PFDA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorobutanesulfonic acid (PFBS)	11	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorohexanesulfonic acid (PFHxS)	2.4	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorooctanesulfonic acid (PFOS)	7.1	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.5	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.5	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.8	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.5	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-3 | Sampled: 10/8/2024 15:30

Sample ID: 24J1727-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 12:58	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	82.0	10-130		10/28/24 12:58
13C5-PFPeA	77.9	35-150		10/28/24 12:58
13C5-PFHxA	75.9	55-150		10/28/24 12:58
13C4-PFHpA	78.3	55-150		10/28/24 12:58
13C8-PFOA	78.1	60-140		10/28/24 12:58
13C9-PFNA	86.8	55-140		10/28/24 12:58
13C6-PFDA	80.4	50-140		10/28/24 12:58
13C7-PFUnA	66.4	30-140		10/28/24 12:58
13C2-PFDoA	68.3	10-150		10/28/24 12:58
13C2-PFTeDA	64.8	10-130		10/28/24 12:58
13C3-PFBS	92.0	55-150		10/28/24 12:58
13C3-PFHxS	84.7	55-150		10/28/24 12:58
13C8-PFOS	78.9	45-140		10/28/24 12:58
13C2-4:2FTS	92.7	60-200		10/28/24 12:58
13C2-6:2FTS	80.2	60-200		10/28/24 12:58
13C2-8:2FTS	57.8	50-200		10/28/24 12:58
13C8-PFOSA	84.6	30-130		10/28/24 12:58
D3-NMeFOSA	58.5	15-130		10/28/24 12:58
D5-NEtFOSA	61.8	10-130		10/28/24 12:58
D3-NMeFOSAA	79.5	45-200		10/28/24 12:58
D5-NEtFOSAA	80.3	10-200		10/28/24 12:58
D7-NMeFOSE	73.5	10-150		10/28/24 12:58
D9-NEtFOSE	70.9	10-150		10/28/24 12:58
13C3-HFPO-DA	76.0	25-160		10/28/24 12:58

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-3 | Sampled: 10/8/2024 15:30

Sample ID: 24J1727-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	470	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2.5 | Sampled: 10/8/2024 17:00

Sample ID: 24J1727-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorooctanoic acid (PFOA)	1.1	0.97	ng/L	1	PF-23	Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorobutanesulfonic acid (PFBS)	1.4	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.9	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2.5 | Sampled: 10/8/2024 17:00

Sample ID: 24J1727-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 13:14	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.5	10-130		10/28/24 13:14
13C5-PFPeA	76.0	35-150		10/28/24 13:14
13C5-PFHxA	75.3	55-150		10/28/24 13:14
13C4-PFHpA	76.7	55-150		10/28/24 13:14
13C8-PFOA	79.3	60-140		10/28/24 13:14
13C9-PFNA	85.0	55-140		10/28/24 13:14
13C6-PFDA	77.9	50-140		10/28/24 13:14
13C7-PFUnA	74.4	30-140		10/28/24 13:14
13C2-PFDoA	77.2	10-150		10/28/24 13:14
13C2-PFTeDA	74.9	10-130		10/28/24 13:14
13C3-PFBS	87.0	55-150		10/28/24 13:14
13C3-PFHxS	80.2	55-150		10/28/24 13:14
13C8-PFOS	80.3	45-140		10/28/24 13:14
13C2-4:2FTS	87.6	60-200		10/28/24 13:14
13C2-6:2FTS	73.9	60-200		10/28/24 13:14
13C2-8:2FTS	63.5	50-200		10/28/24 13:14
13C8-PFOSA	85.7	30-130		10/28/24 13:14
D3-NMeFOSA	55.1	15-130		10/28/24 13:14
D5-NEtFOSA	59.6	10-130		10/28/24 13:14
D3-NMeFOSAA	82.8	45-200		10/28/24 13:14
D5-NEtFOSAA	88.1	10-200		10/28/24 13:14
D7-NMeFOSE	73.2	10-150		10/28/24 13:14
D9-NEtFOSE	67.4	10-150		10/28/24 13:14
13C3-HFPO-DA	76.5	25-160		10/28/24 13:14

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: GWG-2.5 | Sampled: 10/8/2024 17:00

Sample ID: 24J1727-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	150	10	mg/L	1		Draft Method 1633	10/11/24	10/11/24 10:05	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-1 | Sampled: 10/9/2024 09:45

Sample ID: 24J1727-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorooctanesulfonic acid (PFOS)	0.27	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-1 | Sampled: 10/9/2024 09:45

Sample ID: 24J1727-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 0:34	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	76.0	10-130		10/29/24 0:34
13C5-PFPeA	84.0	35-150		10/29/24 0:34
13C5-PFHxA	84.1	55-150		10/29/24 0:34
13C4-PFHpA	90.3	55-150		10/29/24 0:34
13C8-PFOA	80.4	60-140		10/29/24 0:34
13C9-PFNA	93.9	55-140		10/29/24 0:34
13C6-PFDA	90.6	50-140		10/29/24 0:34
13C7-PFUnA	82.3	30-140		10/29/24 0:34
13C2-PFDoA	80.7	10-150		10/29/24 0:34
13C2-PFTeDA	83.8	10-130		10/29/24 0:34
13C3-PFBS	96.0	55-150		10/29/24 0:34
13C3-PFHxS	86.4	55-150		10/29/24 0:34
13C8-PFOS	83.8	45-140		10/29/24 0:34
13C2-4:2FTS	85.4	60-200		10/29/24 0:34
13C2-6:2FTS	83.7	60-200		10/29/24 0:34
13C2-8:2FTS	73.9	50-200		10/29/24 0:34
13C8-PFOSA	87.3	30-130		10/29/24 0:34
D3-NMeFOSA	21.0	15-130		10/29/24 0:34
D5-NEtFOSA	15.7	10-130		10/29/24 0:34
D3-NMeFOSAA	92.4	45-200		10/29/24 0:34
D5-NEtFOSAA	99.2	10-200		10/29/24 0:34
D7-NMeFOSE	46.9	10-150		10/29/24 0:34
D9-NEtFOSE	38.2	10-150		10/29/24 0:34
13C3-HFPO-DA	82.7	25-160		10/29/24 0:34

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-1 | Sampled: 10/9/2024 09:45

Sample ID: 24J1727-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.1		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-1 | Sampled: 10/9/2024 10:50

Sample ID: 24J1727-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorohexanoic acid (PFHxA)	0.52	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoropentanesulfonic acid (PFPeS)	0.28	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorohexanesulfonic acid (PFHxS)	5.9	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoroheptanesulfonic acid (PFHpS)	0.59	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorooctanesulfonic acid (PFOS)	320	2.0	µg/kg dry	10	D	Draft Method 1633	10/30/24	11/1/24 14:02	JR2
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorodecanesulfonic acid (PFDS)	0.39	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluorooctanesulfonamide (PFOSA)	0.33	0.20	µg/kg dry	1	PF-18, PF-22	Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-1 | Sampled: 10/9/2024 10:50

Sample ID: 24J1727-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:40	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	78.1		10-130		11/1/24 11:40
13C5-PFPeA	85.1		35-150		11/1/24 11:40
13C5-PFHxA	84.0		55-150		11/1/24 11:40
13C4-PFHpA	86.4		55-150		11/1/24 11:40
13C8-PFOA	88.1		60-140		11/1/24 11:40
13C9-PFNA	95.6		55-140		11/1/24 11:40
13C6-PFDA	97.2		50-140		11/1/24 11:40
13C7-PFUnA	79.8		30-140		11/1/24 11:40
13C2-PFDoA	85.3		10-150		11/1/24 11:40
13C2-PFTeDA	66.7		10-130		11/1/24 11:40
13C3-PFBS	104		55-150		11/1/24 11:40
13C3-PFHxS	90.2		55-150		11/1/24 11:40
13C8-PFOS	96.8		45-140		11/1/24 11:40
13C8-PFOS	102		45-140		11/1/24 14:02
13C2-4:2FTS	96.3		60-200		11/1/24 11:40
13C2-6:2FTS	88.1		60-200		11/1/24 11:40
13C2-8:2FTS	81.3		50-200		11/1/24 11:40
13C8-PFOSA	**191**	*	30-130	PF-18	11/1/24 11:40
D3-NMeFOSA	85.6		15-130		11/1/24 11:40
D5-NEtFOSA	57.1		10-130		11/1/24 11:40
D3-NMeFOSAA	151		45-200		11/1/24 11:40
D5-NEtFOSAA	98.9		10-200		11/1/24 11:40
D7-NMeFOSE	124		10-150		11/1/24 11:40
D9-NEtFOSE	97.1		10-150		11/1/24 11:40
13C3-HFPO-DA	83.8		25-160		11/1/24 11:40

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-1 | Sampled: 10/9/2024 10:50

Sample ID: 24J1727-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.4		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-7 | Sampled: 10/9/2024 10:55

Sample ID: 24J1727-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorohexanoic acid (PFHxA)	0.41	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoropentanesulfonic acid (PFPeS)	0.22	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorohexanesulfonic acid (PFHxS)	5.2	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoroheptanesulfonic acid (PFHpS)	1.0	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorooctanesulfonic acid (PFOS)	440	2.0	µg/kg dry	10	D	Draft Method 1633	10/21/24	10/29/24 21:47	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1	PF-17	Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-7 | Sampled: 10/9/2024 10:55

Sample ID: 24J1727-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:05	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	77.2		10-130		10/29/24 1:05
13C5-PFPeA	84.4		35-150		10/29/24 1:05
13C5-PFHxA	83.3		55-150		10/29/24 1:05
13C4-PFHpA	88.1		55-150		10/29/24 1:05
13C8-PFOA	79.1		60-140		10/29/24 1:05
13C9-PFNA	90.2		55-140		10/29/24 1:05
13C6-PFDA	93.9		50-140		10/29/24 1:05
13C7-PFUnA	84.9		30-140		10/29/24 1:05
13C2-PFDoA	87.8		10-150		10/29/24 1:05
13C2-PFTeDA	88.0		10-130		10/29/24 1:05
13C3-PFBS	96.9		55-150		10/29/24 1:05
13C3-PFHxS	89.1		55-150		10/29/24 1:05
13C8-PFOS	68.4		45-140		10/29/24 21:47
13C2-4:2FTS	93.7		60-200		10/29/24 1:05
13C2-6:2FTS	88.6		60-200		10/29/24 1:05
13C2-8:2FTS	79.3		50-200		10/29/24 1:05
13C8-PFOSA	**168**	*	30-130	PF-17	10/29/24 1:05
D3-NMeFOSA	104		15-130		10/29/24 1:05
D5-NEtFOSA	82.3		10-130		10/29/24 1:05
D3-NMeFOSAA	160		45-200		10/29/24 1:05
D5-NEtFOSAA	100		10-200		10/29/24 1:05
D7-NMeFOSE	144		10-150		10/29/24 1:05
D9-NEtFOSE	128		10-150		10/29/24 1:05
13C3-HFPO-DA	82.9		25-160		10/29/24 1:05

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-4-7 | Sampled: 10/9/2024 10:55

Sample ID: 24J1727-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.7		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-1 | Sampled: 10/9/2024 11:45

Sample ID: 24J1727-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorohexanoic acid (PFHxA)	0.25	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoroundecanoic acid (PFUnA)	0.38	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorohexanesulfonic acid (PFHxS)	1.8	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoroheptanesulfonic acid (PFHpS)	0.26	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorooctanesulfonic acid (PFOS)	33	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-1 | Sampled: 10/9/2024 11:45

Sample ID: 24J1727-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:21	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	75.5	10-130		10/29/24 1:21
13C5-PFPeA	86.6	35-150		10/29/24 1:21
13C5-PFHxA	86.7	55-150		10/29/24 1:21
13C4-PFHpA	91.7	55-150		10/29/24 1:21
13C8-PFOA	86.2	60-140		10/29/24 1:21
13C9-PFNA	92.5	55-140		10/29/24 1:21
13C6-PFDA	95.3	50-140		10/29/24 1:21
13C7-PFUnA	87.5	30-140		10/29/24 1:21
13C2-PFDoA	93.3	10-150		10/29/24 1:21
13C2-PFTeDA	99.6	10-130		10/29/24 1:21
13C3-PFBS	97.0	55-150		10/29/24 1:21
13C3-PFHxS	89.1	55-150		10/29/24 1:21
13C8-PFOS	89.4	45-140		10/29/24 1:21
13C2-4:2FTS	90.8	60-200		10/29/24 1:21
13C2-6:2FTS	86.7	60-200		10/29/24 1:21
13C2-8:2FTS	71.6	50-200		10/29/24 1:21
13C8-PFOSA	104	30-130		10/29/24 1:21
D3-NMeFOSA	51.6	15-130		10/29/24 1:21
D5-NEtFOSA	46.4	10-130		10/29/24 1:21
D3-NMeFOSAA	106	45-200		10/29/24 1:21
D5-NEtFOSAA	107	10-200		10/29/24 1:21
D7-NMeFOSE	87.8	10-150		10/29/24 1:21
D9-NEtFOSE	80.9	10-150		10/29/24 1:21
13C3-HFPO-DA	86.2	25-160		10/29/24 1:21

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-1 | Sampled: 10/9/2024 11:45

Sample ID: 24J1727-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.3		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-8 | Sampled: 10/9/2024 11:50

Sample ID: 24J1727-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorohexanesulfonic acid (PFHxS)	0.51	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorooctanesulfonic acid (PFOS)	33	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:17	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-8 | Sampled: 10/9/2024 11:50

Sample ID: 24J1727-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:17	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	75.7		10-130		10/18/24	4:17
13C5-PFPeA	88.6		35-150		10/18/24	4:17
13C5-PFHxA	71.2		55-150		10/18/24	4:17
13C4-PFHpA	74.4		55-150		10/18/24	4:17
13C8-PFOA	71.6		60-140		10/18/24	4:17
13C9-PFNA	76.5		55-140		10/18/24	4:17
13C6-PFDA	76.3		50-140		10/18/24	4:17
13C7-PFUnA	73.3		30-140		10/18/24	4:17
13C2-PFDoA	62.2		10-150		10/18/24	4:17
13C2-PFTeDA	22.5		10-130		10/18/24	4:17
13C3-PFBS	73.1		55-150		10/18/24	4:17
13C3-PFHxS	76.4		55-150		10/18/24	4:17
13C8-PFOS	76.9		45-140		10/18/24	4:17
13C2-4:2FTS	73.9		60-200		10/18/24	4:17
13C2-6:2FTS	72.1		60-200		10/18/24	4:17
13C2-8:2FTS	71.7		50-200		10/18/24	4:17
13C8-PFOSA	70.1		30-130		10/18/24	4:17
D3-NMeFOSA	**0.0432**	*	15-130	PF-17C	10/18/24	4:17
D5-NEtFOSA	**0.0581**	*	10-130	PF-17C	10/18/24	4:17
D3-NMeFOSAA	79.1		45-200		10/18/24	4:17
D5-NEtFOSAA	81.5		10-200		10/18/24	4:17
D7-NMeFOSE	**1.11**	*	10-150	PF-17C	10/18/24	4:17
D9-NEtFOSE	**0.951**	*	10-150	PF-17C	10/18/24	4:17
13C3-HFPO-DA	74.7		25-160		10/18/24	4:17

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-2-8 | Sampled: 10/9/2024 11:50

Sample ID: 24J1727-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.1		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-1 | Sampled: 10/9/2024 12:45

Sample ID: 24J1727-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorooctanesulfonic acid (PFOS)	0.35	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 4:32	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-1 | Sampled: 10/9/2024 12:45

Sample ID: 24J1727-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 4:32	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	68.1		10-130		10/18/24	4:32
13C5-PFPeA	81.6		35-150		10/18/24	4:32
13C5-PFHxA	65.9		55-150		10/18/24	4:32
13C4-PFHpA	68.1		55-150		10/18/24	4:32
13C8-PFOA	68.6		60-140		10/18/24	4:32
13C9-PFNA	71.7		55-140		10/18/24	4:32
13C6-PFDA	75.8		50-140		10/18/24	4:32
13C7-PFUnA	77.7		30-140		10/18/24	4:32
13C2-PFDoA	68.8		10-150		10/18/24	4:32
13C2-PFTeDA	57.0		10-130		10/18/24	4:32
13C3-PFBS	69.3		55-150		10/18/24	4:32
13C3-PFHxS	71.1		55-150		10/18/24	4:32
13C8-PFOS	73.7		45-140		10/18/24	4:32
13C2-4:2FTS	**49.5**	*	60-200	PF-17C	10/18/24	4:32
13C2-6:2FTS	65.8		60-200		10/18/24	4:32
13C2-8:2FTS	66.8		50-200		10/18/24	4:32
13C8-PFOSA	62.7		30-130		10/18/24	4:32
D3-NMeFOSA	19.4		15-130		10/18/24	4:32
D5-NEtFOSA	13.6		10-130		10/18/24	4:32
D3-NMeFOSAA	68.4		45-200		10/18/24	4:32
D5-NEtFOSAA	73.3		10-200		10/18/24	4:32
D7-NMeFOSE	39.0		10-150		10/18/24	4:32
D9-NEtFOSE	34.6		10-150		10/18/24	4:32
13C3-HFPO-DA	65.2		25-160		10/18/24	4:32

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-1 | Sampled: 10/9/2024 12:45

Sample ID: 24J1727-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-9 | Sampled: 10/9/2024 12:50

Sample ID: 24J1727-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:04	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.77	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-9 | Sampled: 10/9/2024 12:50

Sample ID: 24J1727-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:04	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	89.3		10-130		10/18/24 9:04
13C5-PFPeA	87.8		35-150		10/18/24 9:04
13C5-PFHxA	85.7		55-150		10/18/24 9:04
13C4-PFHpA	84.5		55-150		10/18/24 9:04
13C8-PFOA	94.2		60-140		10/18/24 9:04
13C9-PFNA	86.9		55-140		10/18/24 9:04
13C6-PFDA	94.7		50-140		10/18/24 9:04
13C7-PFUnA	96.7		30-140		10/18/24 9:04
13C2-PFDoA	84.4		10-150		10/18/24 9:04
13C2-PFTeDA	53.0		10-130		10/18/24 9:04
13C3-PFBS	84.8		55-150		10/18/24 9:04
13C3-PFHxS	88.6		55-150		10/18/24 9:04
13C8-PFOS	91.6		45-140		10/18/24 9:04
13C2-4:2FTS	77.4		60-200		10/18/24 9:04
13C2-6:2FTS	77.7		60-200		10/18/24 9:04
13C2-8:2FTS	79.5		50-200		10/18/24 9:04
13C8-PFOSA	81.8		30-130		10/18/24 9:04
D3-NMeFOSA	**0.0683**	*	15-130	PF-17C	10/18/24 9:04
D5-NEtFOSA	**0.0775**	*	10-130	PF-17C	10/18/24 9:04
D3-NMeFOSAA	84.7		45-200		10/18/24 9:04
D5-NEtFOSAA	91.5		10-200		10/18/24 9:04
D7-NMeFOSE	**1.68**	*	10-150	PF-17C	10/18/24 9:04
D9-NEtFOSE	**0.741**	*	10-150	PF-17C	10/18/24 9:04
13C3-HFPO-DA	81.5		25-160		10/18/24 9:04

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-3-9 | Sampled: 10/9/2024 12:50

Sample ID: 24J1727-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.3		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-8 | Sampled: 10/9/2024 00:00

Sample ID: 24J1727-11

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-17C	Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-8 | Sampled: 10/9/2024 00:00

Sample ID: 24J1727-11

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/16/24	10/18/24 9:19	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C4-PFBA	85.2		10-130		10/18/24	9:19
13C5-PFPeA	99.7		35-150		10/18/24	9:19
13C5-PFHxA	82.9		55-150		10/18/24	9:19
13C4-PFHpA	82.6		55-150		10/18/24	9:19
13C8-PFOA	87.4		60-140		10/18/24	9:19
13C9-PFNA	83.7		55-140		10/18/24	9:19
13C6-PFDA	90.6		50-140		10/18/24	9:19
13C7-PFUnA	95.8		30-140		10/18/24	9:19
13C2-PFDoA	86.5		10-150		10/18/24	9:19
13C2-PFTeDA	72.8		10-130		10/18/24	9:19
13C3-PFBS	84.9		55-150		10/18/24	9:19
13C3-PFHxS	88.2		55-150		10/18/24	9:19
13C8-PFOS	87.6		45-140		10/18/24	9:19
13C2-4:2FTS	75.4		60-200		10/18/24	9:19
13C2-6:2FTS	74.3		60-200		10/18/24	9:19
13C2-8:2FTS	76.8		50-200		10/18/24	9:19
13C8-PFOSA	83.5		30-130		10/18/24	9:19
D3-NMeFOSA	**1.28**	*	15-130	PF-17C	10/18/24	9:19
D5-NEtFOSA	**0.687**	*	10-130	PF-17C	10/18/24	9:19
D3-NMeFOSAA	85.0		45-200		10/18/24	9:19
D5-NEtFOSAA	91.0		10-200		10/18/24	9:19
D7-NMeFOSE	12.7		10-150		10/18/24	9:19
D9-NEtFOSE	10.6		10-150		10/18/24	9:19
13C3-HFPO-DA	74.5		25-160		10/18/24	9:19

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1727

Date Received: 10/10/2024

Field Sample #: SB-1-8 | Sampled: 10/9/2024 00:00

Sample ID: 24J1727-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.5		% Wt	1		SM 2540G	10/11/24	10/11/24 8:15	MLR

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Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1727-08 [SB-2-8]	B389424	5.54	5.00	10/16/24
24J1727-09 [SB-3-1]	B389424	5.67	5.00	10/16/24
24J1727-10 [SB-3-9]	B389424	5.86	5.00	10/16/24
24J1727-11 [SB-1-8]	B389424	5.84	5.00	10/16/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1727-04 [SB-1-1]	B389767	6.03	5.00	10/21/24
24J1727-06 [SB-4-7]	B389767	5.95	5.00	10/21/24
24J1727-06RE1 [SB-4-7]	B389767	5.95	5.00	10/21/24
24J1727-07 [SB-2-1]	B389767	5.78	5.00	10/21/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1727-05RE1 [SB-4-1]	B390329	5.92	5.00	10/30/24
24J1727-05RE2 [SB-4-1]	B390329	5.92	5.00	10/30/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J1727-01 [GWG-2]	B389019	50.0	10/11/24
24J1727-02 [GWG-3]	B389019	50.0	10/11/24
24J1727-03 [GWG-2.5]	B389019	50.0	10/11/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/11/2024 per NO PREP in Batch B389019**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J1727-01 [GWG-2]	B389893	504	5.00	10/22/24
24J1727-02 [GWG-3]	B389893	525	5.00	10/22/24
24J1727-03 [GWG-2.5]	B389893	513	5.00	10/22/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J1727-04 [SB-1-1]	B389037	10/11/24
24J1727-05 [SB-4-1]	B389037	10/11/24
24J1727-06 [SB-4-7]	B389037	10/11/24
24J1727-07 [SB-2-1]	B389037	10/11/24
24J1727-08 [SB-2-8]	B389037	10/11/24
24J1727-09 [SB-3-1]	B389037	10/11/24
24J1727-10 [SB-3-9]	B389037	10/11/24
24J1727-11 [SB-1-8]	B389037	10/11/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633										
Blank (B389424-BLK1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							PF-17C
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							PF-17C
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet							
Surrogate: 13C4-PFBA	*9.50*		µg/kg wet	9.923		95.7	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633											
Blank (B389424-BLK1)				Prepared: 10/16/24 Analyzed: 10/17/24							
Surrogate: 13C5-PFPeA	*5.46*		µg/kg wet	4.961		110		35-150			
Surrogate: 13C5-PFHxA	*2.29*		µg/kg wet	2.481		92.3		55-150			
Surrogate: 13C4-PFHpA	*2.30*		µg/kg wet	2.481		92.7		55-150			
Surrogate: 13C8-PFOA	*2.36*		µg/kg wet	2.481		95.2		60-140			
Surrogate: 13C9-PFNA	*1.18*		µg/kg wet	1.240		94.9		55-140			
Surrogate: 13C6-PFDA	*1.21*		µg/kg wet	1.240		97.8		50-140			
Surrogate: 13C7-PFUnA	*1.27*		µg/kg wet	1.240		102		30-140			
Surrogate: 13C2-PFDoA	*1.09*		µg/kg wet	1.240		87.6		10-150			
Surrogate: 13C2-PFTeDA	*0.750*		µg/kg wet	1.240		60.4		10-130			
Surrogate: 13C3-PFBS	*2.41*		µg/kg wet	2.481		97.3		55-150			
Surrogate: 13C3-PFHxS	*2.49*		µg/kg wet	2.481		100		55-150			
Surrogate: 13C8-PFOS	*2.37*		µg/kg wet	2.481		95.6		45-140			
Surrogate: 13C2-4:2FTS	*4.69*		µg/kg wet	4.961		94.5		60-200			
Surrogate: 13C2-6:2FTS	*4.65*		µg/kg wet	4.961		93.7		60-200			
Surrogate: 13C2-8:2FTS	*4.63*		µg/kg wet	4.961		93.3		50-200			
Surrogate: 13C8-PFOSA	*2.21*		µg/kg wet	2.481		89.2		30-130			
Surrogate: D3-NMeFOSA	*0.0218*		µg/kg wet	2.481		**0.878**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.00258*		µg/kg wet	2.481		**0.104**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*4.75*		µg/kg wet	4.961		95.7		45-200			
Surrogate: D5-NEtFOSAA	*4.74*		µg/kg wet	4.961		95.4		10-200			
Surrogate: D7-NMeFOSE	*2.64*		µg/kg wet	24.81		10.6		10-150			
Surrogate: D9-NEtFOSE	*1.38*		µg/kg wet	24.81		**5.58**	*	10-150			PF-17C
Surrogate: 13C3-HFPO-DA	*8.89*		µg/kg wet	9.923		89.6		25-160			
LCS (B389424-BS1)				Prepared: 10/16/24 Analyzed: 10/17/24							
Perfluorobutanoic acid (PFBA)	9.84	0.78	µg/kg wet	9.306		106		58-148			
Perfluoropentanoic acid (PFPeA)	5.00	0.39	µg/kg wet	4.653		108		54-152			
Perfluorohexanoic acid (PFHxA)	2.60	0.19	µg/kg wet	2.326		112		55-152			
Perfluoroheptanoic acid (PFHpA)	2.43	0.19	µg/kg wet	2.326		104		54-154			
Perfluorooctanoic acid (PFOA)	2.31	0.19	µg/kg wet	2.326		99.1		52-161			
Perfluorononanoic acid (PFNA)	2.41	0.19	µg/kg wet	2.326		103		59-149			
Perfluorodecanoic acid (PFDA)	2.40	0.19	µg/kg wet	2.326		103		52-147			
Perfluoroundecanoic acid (PFUnA)	2.35	0.19	µg/kg wet	2.326		101		48-159			
Perfluorododecanoic acid (PFDoA)	2.40	0.19	µg/kg wet	2.326		103		64-142			
Perfluorotridecanoic acid (PFTrDA)	2.50	0.19	µg/kg wet	2.326		108		49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.41	0.19	µg/kg wet	2.326		104		47-161			
Perfluorobutanesulfonic acid (PFBS)	2.06	0.19	µg/kg wet	2.064		99.7		62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.24	0.19	µg/kg wet	2.189		102		59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.94	0.19	µg/kg wet	2.126		91.5		57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.20	0.19	µg/kg wet	2.217		99.1		55-152			
Perfluorooctanesulfonic acid (PFOS)	2.17	0.19	µg/kg wet	2.159		100		58-149			
Perfluorononanesulfonic acid (PFNS)	2.22	0.19	µg/kg wet	2.238		99.3		52-148			
Perfluorodecanesulfonic acid (PFDS)	2.15	0.19	µg/kg wet	2.245		95.9		51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.04	0.19	µg/kg wet	2.257		90.6		36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.12	0.78	µg/kg wet	8.724		105		67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.53	0.78	µg/kg wet	8.841		108		61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.95	0.78	µg/kg wet	8.934		100		63-152			
Perfluorooctanesulfonamide (PFOSA)	2.32	0.19	µg/kg wet	2.326		99.6		61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.40	0.19	µg/kg wet	2.326		103		63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633										
LCS (B389424-BS1)				Prepared: 10/16/24 Analyzed: 10/17/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.65	0.19	µg/kg wet	2.326		114	65-139			
N-MeFOSAA (NMeFOSAA)	2.31	0.19	µg/kg wet	2.326		99.3	58-144			
N-EtFOSAA (NEtFOSAA)	2.23	0.19	µg/kg wet	2.326		95.6	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	22.8	1.9	µg/kg wet	23.26		98.0	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.9	1.9	µg/kg wet	23.26		98.6	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.18	0.78	µg/kg wet	9.306		98.6	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.32	0.78	µg/kg wet	8.794		106	68-146			
9Cl-PF3ONS (F53B Minor)	9.03	0.78	µg/kg wet	8.701		104	56-156			
11Cl-PF3OUdS (F53B Major)	8.63	0.78	µg/kg wet	8.794		98.1	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	18.0	1.9	µg/kg wet	23.26		77.2	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	117	9.7	µg/kg wet	116.3		101	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	108	9.7	µg/kg wet	116.3		93.1	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.77	0.39	µg/kg wet	4.141		115	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.32	0.39	µg/kg wet	4.653		92.8	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.45	0.39	µg/kg wet	4.653		95.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.75	0.39	µg/kg wet	4.653		102	48-161			
Surrogate: 13C4-PFBA	*6.75*		µg/kg wet	9.694		69.6	10-130			
Surrogate: 13C5-PFPeA	*3.88*		µg/kg wet	4.847		80.0	35-150			
Surrogate: 13C5-PFHxA	*1.59*		µg/kg wet	2.423		65.4	55-150			
Surrogate: 13C4-PFHpA	*1.56*		µg/kg wet	2.423		64.5	55-150			
Surrogate: 13C8-PFOA	*1.67*		µg/kg wet	2.423		68.9	60-140			
Surrogate: 13C9-PFNA	*0.851*		µg/kg wet	1.212		70.2	55-140			
Surrogate: 13C6-PFDA	*0.832*		µg/kg wet	1.212		68.6	50-140			
Surrogate: 13C7-PFUnA	*0.834*		µg/kg wet	1.212		68.8	30-140			
Surrogate: 13C2-PFDoA	*0.767*		µg/kg wet	1.212		63.3	10-150			
Surrogate: 13C2-PFTeDA	*0.681*		µg/kg wet	1.212		56.2	10-130			
Surrogate: 13C3-PFBS	*1.62*		µg/kg wet	2.423		66.9	55-150			
Surrogate: 13C3-PFHxS	*1.71*		µg/kg wet	2.423		70.4	55-150			
Surrogate: 13C8-PFOS	*1.69*		µg/kg wet	2.423		69.6	45-140			
Surrogate: 13C2-4:2FTS	*3.35*		µg/kg wet	4.847		69.2	60-200			
Surrogate: 13C2-6:2FTS	*3.37*		µg/kg wet	4.847		69.5	60-200			
Surrogate: 13C2-8:2FTS	*3.22*		µg/kg wet	4.847		66.3	50-200			
Surrogate: 13C8-PFOSA	*1.47*		µg/kg wet	2.423		60.8	30-130			
Surrogate: D3-NMeFOSA	*0.732*		µg/kg wet	2.423		30.2	15-130			
Surrogate: D5-NEtFOSA	*0.457*		µg/kg wet	2.423		18.8	10-130			
Surrogate: D3-NMeFOSAA	*3.27*		µg/kg wet	4.847		67.5	45-200			
Surrogate: D5-NEtFOSAA	*3.45*		µg/kg wet	4.847		71.2	10-200			
Surrogate: D7-NMeFOSE	*10.9*		µg/kg wet	24.23		45.0	10-150			
Surrogate: D9-NEtFOSE	*10.1*		µg/kg wet	24.23		41.8	10-150			
Surrogate: 13C3-HFPO-DA	*6.34*		µg/kg wet	9.694		65.4	25-160			
MRL Check (B389424-MRL1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorobutanoic acid (PFBA)	0.820	0.77	µg/kg wet	0.7723		106	44-157			
Perfluoropentanoic acid (PFPeA)	0.436	0.39	µg/kg wet	0.3862		113	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633										
MRL Check (B389424-MRL1)				Prepared: 10/16/24 Analyzed: 10/17/24						
Perfluorohexanoic acid (PFHxA)	0.225	0.19	µg/kg wet	0.1931		116	62-149			
Perfluoroheptanoic acid (PFHpA)	0.208	0.19	µg/kg wet	0.1931		108	56-150			
Perfluorooctanoic acid (PFOA)	0.191	0.19	µg/kg wet	0.1931		98.7	57-161			
Perfluorononanoic acid (PFNA)	0.217	0.19	µg/kg wet	0.1931		112	53-157			
Perfluorodecanoic acid (PFDA)	0.210	0.19	µg/kg wet	0.1931		109	43-158			
Perfluoroundecanoic acid (PFUnA)	0.182	0.19	µg/kg wet	0.1931		94.2	50-155			
Perfluorododecanoic acid (PFDoA)	0.204	0.19	µg/kg wet	0.1931		106	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.188	0.19	µg/kg wet	0.1931		97.4	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.211	0.19	µg/kg wet	0.1931		109	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.182	0.19	µg/kg wet	0.1713		106	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.205	0.19	µg/kg wet	0.1817		113	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.185	0.19	µg/kg wet	0.1765		105	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.194	0.19	µg/kg wet	0.1840		105	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.214	0.19	µg/kg wet	0.1792		119	43-162			
Perfluorononanesulfonic acid (PFNS)	0.201	0.19	µg/kg wet	0.1858		108	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.174	0.19	µg/kg wet	0.1863		93.6	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.153	0.19	µg/kg wet	0.1873		81.5	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.783	0.77	µg/kg wet	0.7241		108	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.879	0.77	µg/kg wet	0.7337		120	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.778	0.77	µg/kg wet	0.7415		105	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.206	0.19	µg/kg wet	0.1931		107	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.233	0.19	µg/kg wet	0.1931		121	54-155			PF-17C
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.220	0.19	µg/kg wet	0.1931		114	49-156			PF-17C
N-MeFOSAA (NMeFOSAA)	0.226	0.19	µg/kg wet	0.1931		117	32-160			
N-EtFOSAA (NEtFOSAA)	0.181	0.19	µg/kg wet	0.1931		93.8	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	2.07	1.9	µg/kg wet	1.931		107	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	2.07	1.9	µg/kg wet	1.931		107	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.729	0.77	µg/kg wet	0.7723		94.4	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.720	0.77	µg/kg wet	0.7299		98.6	61-148			
9Cl-PF3ONS (F53B Minor)	0.700	0.77	µg/kg wet	0.7221		97.0	44-167			
11Cl-PF3OUdS (F53B Major)	0.628	0.77	µg/kg wet	0.7299		86.1	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.44	1.9	µg/kg wet	1.931		74.6	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	8.09	9.7	µg/kg wet	9.654		83.8	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	8.02	9.7	µg/kg wet	9.654		83.0	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.352	0.39	µg/kg wet	0.3437		102	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.320	0.39	µg/kg wet	0.3862		83.0	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.335	0.39	µg/kg wet	0.3862		86.8	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.396	0.39	µg/kg wet	0.3862		102	47-160			
Surrogate: 13C4-PFBA	*7.92*		µg/kg wet	9.654		82.0	10-130			
Surrogate: 13C5-PFPeA	*4.54*		µg/kg wet	4.827		94.0	35-150			
Surrogate: 13C5-PFHxA	*1.88*		µg/kg wet	2.414		78.0	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B389424 - Draft Method 1633											
MRL Check (B389424-MRL1)				Prepared: 10/16/24 Analyzed: 10/17/24							
Surrogate: 13C4-PFHpA	*1.87*		µg/kg wet	2.414		77.4		55-150			
Surrogate: 13C8-PFOA	*2.02*		µg/kg wet	2.414		83.6		60-140			
Surrogate: 13C9-PFNA	*0.979*		µg/kg wet	1.207		81.1		55-140			
Surrogate: 13C6-PFDA	*0.957*		µg/kg wet	1.207		79.3		50-140			
Surrogate: 13C7-PFUnA	*0.990*		µg/kg wet	1.207		82.1		30-140			
Surrogate: 13C2-PFDoA	*0.870*		µg/kg wet	1.207		72.1		10-150			
Surrogate: 13C2-PFTeDA	*0.718*		µg/kg wet	1.207		59.5		10-130			
Surrogate: 13C3-PFBS	*1.89*		µg/kg wet	2.414		78.2		55-150			
Surrogate: 13C3-PFHxS	*2.01*		µg/kg wet	2.414		83.1		55-150			
Surrogate: 13C8-PFOS	*2.00*		µg/kg wet	2.414		82.9		45-140			
Surrogate: 13C2-4:2FTS	*3.90*		µg/kg wet	4.827		80.8		60-200			
Surrogate: 13C2-6:2FTS	*3.77*		µg/kg wet	4.827		78.0		60-200			
Surrogate: 13C2-8:2FTS	*3.76*		µg/kg wet	4.827		77.9		50-200			
Surrogate: 13C8-PFOSA	*1.84*		µg/kg wet	2.414		76.3		30-130			
Surrogate: D3-NMeFOSA	*0.348*		µg/kg wet	2.414		**14.4**	*	15-130			PF-17C
Surrogate: D5-NEtFOSA	*0.107*		µg/kg wet	2.414		**4.41**	*	10-130			PF-17C
Surrogate: D3-NMeFOSAA	*3.91*		µg/kg wet	4.827		80.9		45-200			
Surrogate: D5-NEtFOSAA	*4.08*		µg/kg wet	4.827		84.6		10-200			
Surrogate: D7-NMeFOSE	*10.3*		µg/kg wet	24.14		42.5		10-150			
Surrogate: D9-NEtFOSE	*8.60*		µg/kg wet	24.14		35.6		10-150			
Surrogate: 13C3-HFPO-DA	*7.27*		µg/kg wet	9.654		75.3		25-160			
Batch B389767 - Draft Method 1633											
Blank (B389767-BLK1)				Prepared: 10/21/24 Analyzed: 10/24/24							
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg wet								
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet								
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet								
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet								
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet								
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet								
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet								
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet								
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet								
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet								
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet								
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet								
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet								
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet								
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet								
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet								
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet								
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet								
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet								
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg wet								
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg wet								
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg wet								
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet								
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet								

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Blank (B389767-BLK1)				Prepared: 10/21/24 Analyzed: 10/24/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet							
Surrogate: 13C4-PFBA	*11.6*		µg/kg wet	9.944		116	10-130			
Surrogate: 13C5-PFPeA	*5.53*		µg/kg wet	4.972		111	35-150			
Surrogate: 13C5-PFHxA	*2.64*		µg/kg wet	2.486		106	55-150			
Surrogate: 13C4-PFHpA	*2.62*		µg/kg wet	2.486		105	55-150			
Surrogate: 13C8-PFOA	*2.68*		µg/kg wet	2.486		108	60-140			
Surrogate: 13C9-PFNA	*1.47*		µg/kg wet	1.243		118	55-140			
Surrogate: 13C6-PFDA	*1.39*		µg/kg wet	1.243		112	50-140			
Surrogate: 13C7-PFUnA	*1.35*		µg/kg wet	1.243		109	30-140			
Surrogate: 13C2-PFDoA	*1.28*		µg/kg wet	1.243		103	10-150			
Surrogate: 13C2-PFTeDA	*1.23*		µg/kg wet	1.243		99.3	10-130			
Surrogate: 13C3-PFBS	*3.00*		µg/kg wet	2.486		121	55-150			
Surrogate: 13C3-PFHxS	*2.73*		µg/kg wet	2.486		110	55-150			
Surrogate: 13C8-PFOS	*2.85*		µg/kg wet	2.486		115	45-140			
Surrogate: 13C2-4:2FTS	*6.37*		µg/kg wet	4.972		128	60-200			
Surrogate: 13C2-6:2FTS	*6.16*		µg/kg wet	4.972		124	60-200			
Surrogate: 13C2-8:2FTS	*5.35*		µg/kg wet	4.972		108	50-200			
Surrogate: 13C8-PFOSA	*2.73*		µg/kg wet	2.486		110	30-130			
Surrogate: D3-NMeFOSA	*1.77*		µg/kg wet	2.486		71.1	15-130			
Surrogate: D5-NEtFOSA	*1.43*		µg/kg wet	2.486		57.5	10-130			
Surrogate: D3-NMeFOSAA	*5.84*		µg/kg wet	4.972		117	45-200			
Surrogate: D5-NEtFOSAA	*6.04*		µg/kg wet	4.972		122	10-200			
Surrogate: D7-NMeFOSE	*25.1*		µg/kg wet	24.86		101	10-150			
Surrogate: D9-NEtFOSE	*23.5*		µg/kg wet	24.86		94.7	10-150			
Surrogate: 13C3-HFPO-DA	*10.9*		µg/kg wet	9.944		110	25-160			
LCS (B389767-BS1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	9.40	0.78	µg/kg wet	9.342		101	58-148			
Perfluoropentanoic acid (PFPeA)	4.63	0.39	µg/kg wet	4.671		99.1	54-152			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
LCS (B389767-BS1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorohexanoic acid (PFHxA)	2.42	0.19	µg/kg wet	2.336		104	55-152			
Perfluoroheptanoic acid (PFHpA)	2.26	0.19	µg/kg wet	2.336		96.9	54-154			
Perfluorooctanoic acid (PFOA)	2.28	0.19	µg/kg wet	2.336		97.5	52-161			
Perfluorononanoic acid (PFNA)	2.14	0.19	µg/kg wet	2.336		91.7	59-149			
Perfluorodecanoic acid (PFDA)	2.13	0.19	µg/kg wet	2.336		91.2	52-147			
Perfluoroundecanoic acid (PFUnA)	2.32	0.19	µg/kg wet	2.336		99.5	48-159			
Perfluorododecanoic acid (PFDoA)	2.43	0.19	µg/kg wet	2.336		104	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.40	0.19	µg/kg wet	2.336		103	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.39	0.19	µg/kg wet	2.336		102	47-161			
Perfluorobutanesulfonic acid (PFBS)	2.02	0.19	µg/kg wet	2.072		97.4	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.17	0.19	µg/kg wet	2.198		98.5	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.98	0.19	µg/kg wet	2.135		92.6	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.16	0.19	µg/kg wet	2.226		96.8	55-152			
Perfluorooctanesulfonic acid (PFOS)	1.97	0.19	µg/kg wet	2.167		90.9	58-149			
Perfluorononanesulfonic acid (PFNS)	2.08	0.19	µg/kg wet	2.247		92.8	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.17	0.19	µg/kg wet	2.254		96.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.00	0.19	µg/kg wet	2.265		88.3	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.56	0.78	µg/kg wet	8.758		109	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.71	0.78	µg/kg wet	8.875		109	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.4	0.78	µg/kg wet	8.968		116	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.37	0.19	µg/kg wet	2.336		101	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.11	0.19	µg/kg wet	2.336		90.4	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.97	0.19	µg/kg wet	2.336		84.4	65-139			
N-MeFOSAA (NMeFOSAA)	2.46	0.19	µg/kg wet	2.336		105	58-144			
N-EtFOSAA (NEtFOSAA)	2.18	0.19	µg/kg wet	2.336		93.4	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	21.7	1.9	µg/kg wet	23.36		92.9	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.1	1.9	µg/kg wet	23.36		94.5	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.99	0.78	µg/kg wet	9.342		96.3	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.39	0.78	µg/kg wet	8.828		95.1	68-146			
9Cl-PF3ONS (F53B Minor)	7.88	0.78	µg/kg wet	8.735		90.2	56-156			
11Cl-PF3OUdS (F53B Major)	7.28	0.78	µg/kg wet	8.828		82.5	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	20.7	1.9	µg/kg wet	23.36		88.6	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	99.9	9.7	µg/kg wet	116.8		85.6	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	98.4	9.7	µg/kg wet	116.8		84.2	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.24	0.39	µg/kg wet	4.157		102	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.39	0.39	µg/kg wet	4.671		94.1	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.66	0.39	µg/kg wet	4.671		99.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.13	0.39	µg/kg wet	4.671		110	48-161			
Surrogate: 13C4-PFBA	*9.40*		µg/kg wet	9.731		96.6	10-130			
Surrogate: 13C5-PFPeA	*4.79*		µg/kg wet	4.866		98.5	35-150			
Surrogate: 13C5-PFHxA	*2.31*		µg/kg wet	2.433		94.9	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
LCS (B389767-BS1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Surrogate: 13C4-PFHpA	*2.40*		µg/kg wet	2.433		98.5	55-150			
Surrogate: 13C8-PFOA	*2.37*		µg/kg wet	2.433		97.6	60-140			
Surrogate: 13C9-PFNA	*1.24*		µg/kg wet	1.216		102	55-140			
Surrogate: 13C6-PFDA	*1.29*		µg/kg wet	1.216		106	50-140			
Surrogate: 13C7-PFUnA	*1.20*		µg/kg wet	1.216		98.4	30-140			
Surrogate: 13C2-PFDoA	*1.16*		µg/kg wet	1.216		95.6	10-150			
Surrogate: 13C2-PFTeDA	*1.11*		µg/kg wet	1.216		90.9	10-130			
Surrogate: 13C3-PFBS	*2.55*		µg/kg wet	2.433		105	55-150			
Surrogate: 13C3-PFHxS	*2.37*		µg/kg wet	2.433		97.5	55-150			
Surrogate: 13C8-PFOS	*2.55*		µg/kg wet	2.433		105	45-140			
Surrogate: 13C2-4:2FTS	*4.97*		µg/kg wet	4.866		102	60-200			
Surrogate: 13C2-6:2FTS	*4.88*		µg/kg wet	4.866		100	60-200			
Surrogate: 13C2-8:2FTS	*4.38*		µg/kg wet	4.866		90.1	50-200			
Surrogate: 13C8-PFOSA	*2.31*		µg/kg wet	2.433		95.0	30-130			
Surrogate: D3-NMeFOSA	*1.56*		µg/kg wet	2.433		64.0	15-130			
Surrogate: D5-NEtFOSA	*1.52*		µg/kg wet	2.433		62.5	10-130			
Surrogate: D3-NMeFOSAA	*5.39*		µg/kg wet	4.866		111	45-200			
Surrogate: D5-NEtFOSAA	*5.15*		µg/kg wet	4.866		106	10-200			
Surrogate: D7-NMeFOSE	*22.0*		µg/kg wet	24.33		90.5	10-150			
Surrogate: D9-NEtFOSE	*22.7*		µg/kg wet	24.33		93.1	10-150			
Surrogate: 13C3-HFPO-DA	*9.35*		µg/kg wet	9.731		96.1	25-160			
MRL Check (B389767-MRL1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	0.797	0.78	µg/kg wet	0.7849		101	44-157			
Perfluoropentanoic acid (PFPeA)	0.416	0.39	µg/kg wet	0.3925		106	57-148			
Perfluorohexanoic acid (PFHxA)	0.211	0.20	µg/kg wet	0.1962		107	62-149			
Perfluoroheptanoic acid (PFHpA)	0.202	0.20	µg/kg wet	0.1962		103	56-150			
Perfluorooctanoic acid (PFOA)	0.220	0.20	µg/kg wet	0.1962		112	57-161			
Perfluorononanoic acid (PFNA)	0.194	0.20	µg/kg wet	0.1962		98.7	53-157			
Perfluorodecanoic acid (PFDA)	0.198	0.20	µg/kg wet	0.1962		101	43-158			
Perfluoroundecanoic acid (PFUnA)	0.200	0.20	µg/kg wet	0.1962		102	50-155			
Perfluorododecanoic acid (PFDoA)	0.215	0.20	µg/kg wet	0.1962		110	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.204	0.20	µg/kg wet	0.1962		104	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.206	0.20	µg/kg wet	0.1962		105	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.178	0.20	µg/kg wet	0.1741		102	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.205	0.20	µg/kg wet	0.1847		111	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.197	0.20	µg/kg wet	0.1794		110	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.218	0.20	µg/kg wet	0.1870		116	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.200	0.20	µg/kg wet	0.1821		110	43-162			
Perfluorononanesulfonic acid (PFNS)	0.194	0.20	µg/kg wet	0.1888		103	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.201	0.20	µg/kg wet	0.1894		106	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.174	0.20	µg/kg wet	0.1903		91.5	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.875	0.78	µg/kg wet	0.7359		119	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.962	0.78	µg/kg wet	0.7457		129	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.885	0.78	µg/kg wet	0.7535		117	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.205	0.20	µg/kg wet	0.1962		105	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.179	0.20	µg/kg wet	0.1962		91.1	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.174	0.20	µg/kg wet	0.1962		88.6	49-156			
N-MeFOSAA (NMeFOSAA)	0.188	0.20	µg/kg wet	0.1962		95.6	32-160			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
MRL Check (B389767-MRL1)				Prepared: 10/21/24 Analyzed: 10/24/24						
N-EtFOSAA (NEtFOSAA)	0.215	0.20	µg/kg wet	0.1962		109	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	2.05	2.0	µg/kg wet	1.962		105	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	2.17	2.0	µg/kg wet	1.962		111	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.773	0.78	µg/kg wet	0.7849		98.5	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.725	0.78	µg/kg wet	0.7418		97.7	61-148			
9Cl-PF3ONS (F53B Minor)	0.673	0.78	µg/kg wet	0.7339		91.7	44-167			
11Cl-PF3OUdS (F53B Major)	0.593	0.78	µg/kg wet	0.7418		80.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.68	2.0	µg/kg wet	1.962		85.8	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	7.80	9.8	µg/kg wet	9.812		79.5	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	7.33	9.8	µg/kg wet	9.812		74.7	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.330	0.39	µg/kg wet	0.3493		94.4	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.355	0.39	µg/kg wet	0.3925		90.4	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.366	0.39	µg/kg wet	0.3925		93.2	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.430	0.39	µg/kg wet	0.3925		110	47-160			
Surrogate: 13C4-PFBA	*9.30*		µg/kg wet	9.812		94.8	10-130			
Surrogate: 13C5-PFPeA	*4.50*		µg/kg wet	4.906		91.7	35-150			
Surrogate: 13C5-PFHxA	*2.22*		µg/kg wet	2.453		90.4	55-150			
Surrogate: 13C4-PFHpA	*2.16*		µg/kg wet	2.453		88.1	55-150			
Surrogate: 13C8-PFOA	*2.24*		µg/kg wet	2.453		91.4	60-140			
Surrogate: 13C9-PFNA	*1.21*		µg/kg wet	1.226		98.6	55-140			
Surrogate: 13C6-PFDA	*1.22*		µg/kg wet	1.226		99.4	50-140			
Surrogate: 13C7-PFUnA	*1.11*		µg/kg wet	1.226		90.8	30-140			
Surrogate: 13C2-PFDoA	*1.09*		µg/kg wet	1.226		88.5	10-150			
Surrogate: 13C2-PFTeDA	*1.08*		µg/kg wet	1.226		87.8	10-130			
Surrogate: 13C3-PFBS	*2.49*		µg/kg wet	2.453		102	55-150			
Surrogate: 13C3-PFHxS	*2.33*		µg/kg wet	2.453		94.8	55-150			
Surrogate: 13C8-PFOS	*2.36*		µg/kg wet	2.453		96.2	45-140			
Surrogate: 13C2-4:2FTS	*5.09*		µg/kg wet	4.906		104	60-200			
Surrogate: 13C2-6:2FTS	*4.64*		µg/kg wet	4.906		94.6	60-200			
Surrogate: 13C2-8:2FTS	*4.59*		µg/kg wet	4.906		93.7	50-200			
Surrogate: 13C8-PFOSA	*2.24*		µg/kg wet	2.453		91.2	30-130			
Surrogate: D3-NMeFOSA	*1.66*		µg/kg wet	2.453		67.8	15-130			
Surrogate: D5-NEtFOSA	*1.55*		µg/kg wet	2.453		63.4	10-130			
Surrogate: D3-NMeFOSAA	*5.14*		µg/kg wet	4.906		105	45-200			
Surrogate: D5-NEtFOSAA	*5.05*		µg/kg wet	4.906		103	10-200			
Surrogate: D7-NMeFOSE	*20.7*		µg/kg wet	24.53		84.2	10-150			
Surrogate: D9-NEtFOSE	*19.9*		µg/kg wet	24.53		81.3	10-150			
Surrogate: 13C3-HFPO-DA	*8.81*		µg/kg wet	9.812		89.7	25-160			
Matrix Spike (B389767-MS1)		**Source: 24J1727-04**		Prepared: 10/21/24 Analyzed: 10/29/24						
Perfluorobutanoic acid (PFBA)	11.9	0.78	µg/kg dry	9.309	ND	128	58-148			
Perfluoropentanoic acid (PFPeA)	5.35	0.39	µg/kg dry	4.654	ND	115	54-152			
Perfluorohexanoic acid (PFHxA)	2.85	0.19	µg/kg dry	2.327	0.0528	120	55-152			
Perfluoroheptanoic acid (PFHpA)	2.57	0.19	µg/kg dry	2.327	0.0299	109	54-154			
Perfluorooctanoic acid (PFOA)	2.80	0.19	µg/kg dry	2.327	0.138	114	52-161			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Matrix Spike (B389767-MS1)	**Source: 24J1727-04**			Prepared: 10/21/24 Analyzed: 10/29/24						
Perfluorononanoic acid (PFNA)	2.46	0.19	µg/kg dry	2.327	0.0183	105	59-149			
Perfluorodecanoic acid (PFDA)	2.38	0.19	µg/kg dry	2.327	ND	102	52-147			
Perfluoroundecanoic acid (PFUnA)	2.79	0.19	µg/kg dry	2.327	ND	120	48-159			
Perfluorododecanoic acid (PFDoA)	2.76	0.19	µg/kg dry	2.327	ND	119	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.92	0.19	µg/kg dry	2.327	ND	126	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.64	0.19	µg/kg dry	2.327	ND	113	47-161			
Perfluorobutanesulfonic acid (PFBS)	2.33	0.19	µg/kg dry	2.064	ND	113	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.64	0.19	µg/kg dry	2.190	ND	121	59-151			
Perfluorohexanesulfonic acid (PFHxS)	2.48	0.19	µg/kg dry	2.127	ND	116	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.72	0.19	µg/kg dry	2.218	ND	123	55-152			
Perfluorooctanesulfonic acid (PFOS)	2.53	0.19	µg/kg dry	2.160	0.271	104	58-149			
Perfluorononanesulfonic acid (PFNS)	2.60	0.19	µg/kg dry	2.239	ND	116	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.75	0.19	µg/kg dry	2.246	ND	122	51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.48	0.19	µg/kg dry	2.257	ND	110	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.5	0.78	µg/kg dry	8.727	ND	121	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.2	0.78	µg/kg dry	8.843	ND	126	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.2	0.78	µg/kg dry	8.936	ND	125	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.62	0.19	µg/kg dry	2.327	ND	113	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.25	0.19	µg/kg dry	2.327	ND	96.8	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.34	0.19	µg/kg dry	2.327	ND	100	65-139			
N-MeFOSAA (NMeFOSAA)	2.68	0.19	µg/kg dry	2.327	ND	115	58-144			
N-EtFOSAA (NEtFOSAA)	2.23	0.19	µg/kg dry	2.327	ND	95.8	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	22.9	1.9	µg/kg dry	23.27	ND	98.5	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	23.4	1.9	µg/kg dry	23.27	ND	101	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.55	0.78	µg/kg dry	9.309	ND	103	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.69	0.78	µg/kg dry	8.797	ND	110	68-146			
9Cl-PF3ONS (F53B Minor)	8.53	0.78	µg/kg dry	8.704	ND	98.0	56-156			
11Cl-PF3OUdS (F53B Major)	7.68	0.78	µg/kg dry	8.797	ND	87.3	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	22.7	1.9	µg/kg dry	23.27	ND	97.5	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	112	9.7	µg/kg dry	116.4	ND	96.7	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	116	9.7	µg/kg dry	116.4	ND	99.6	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.02	0.39	µg/kg dry	4.142	ND	121	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.88	0.39	µg/kg dry	4.654	ND	105	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.37	0.39	µg/kg dry	4.654	ND	115	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.95	0.39	µg/kg dry	4.654	ND	128	48-161			
Surrogate: 13C4-PFBA	*7.17*		µg/kg dry	9.696		73.9	10-130			
Surrogate: 13C5-PFPeA	*4.47*		µg/kg dry	4.848		92.3	35-150			
Surrogate: 13C5-PFHxA	*2.15*		µg/kg dry	2.424		88.8	55-150			
Surrogate: 13C4-PFHpA	*2.37*		µg/kg dry	2.424		97.9	55-150			
Surrogate: 13C8-PFOA	*2.06*		µg/kg dry	2.424		85.1	60-140			
Surrogate: 13C9-PFNA	*1.16*		µg/kg dry	1.212		95.9	55-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Matrix Spike (B389767-MS1)	**Source: 24J1727-04**			Prepared: 10/21/24 Analyzed: 10/29/24						
Surrogate: 13C6-PFDA	*1.27*		µg/kg dry	1.212		104	50-140			
Surrogate: 13C7-PFUnA	*1.11*		µg/kg dry	1.212		91.7	30-140			
Surrogate: 13C2-PFDoA	*1.17*		µg/kg dry	1.212		96.4	10-150			
Surrogate: 13C2-PFTeDA	*1.19*		µg/kg dry	1.212		98.1	10-130			
Surrogate: 13C3-PFBS	*2.42*		µg/kg dry	2.424		99.7	55-150			
Surrogate: 13C3-PFHxS	*2.25*		µg/kg dry	2.424		92.9	55-150			
Surrogate: 13C8-PFOS	*2.37*		µg/kg dry	2.424		97.9	45-140			
Surrogate: 13C2-4:2FTS	*4.39*		µg/kg dry	4.848		90.5	60-200			
Surrogate: 13C2-6:2FTS	*4.28*		µg/kg dry	4.848		88.3	60-200			
Surrogate: 13C2-8:2FTS	*3.63*		µg/kg dry	4.848		74.9	50-200			
Surrogate: 13C8-PFOSA	*2.60*		µg/kg dry	2.424		107	30-130			
Surrogate: D3-NMeFOSA	*0.912*		µg/kg dry	2.424		37.6	15-130			
Surrogate: D5-NEtFOSA	*0.722*		µg/kg dry	2.424		29.8	10-130			
Surrogate: D3-NMeFOSAA	*5.25*		µg/kg dry	4.848		108	45-200			
Surrogate: D5-NEtFOSAA	*5.63*		µg/kg dry	4.848		116	10-200			
Surrogate: D7-NMeFOSE	*16.5*		µg/kg dry	24.24		68.2	10-150			
Surrogate: D9-NEtFOSE	*14.2*		µg/kg dry	24.24		58.4	10-150			
Surrogate: 13C3-HFPO-DA	*8.35*		µg/kg dry	9.696		86.1	25-160			
Matrix Spike Dup (B389767-MSD1)	**Source: 24J1727-04**			Prepared: 10/21/24 Analyzed: 10/29/24						
Perfluorobutanoic acid (PFBA)	10.7	0.78	µg/kg dry	9.318	ND	115	58-148	10.3	20	
Perfluoropentanoic acid (PFPeA)	5.33	0.39	µg/kg dry	4.659	ND	114	54-152	0.493	20	
Perfluorohexanoic acid (PFHxA)	2.87	0.19	µg/kg dry	2.329	0.0528	121	55-152	0.731	25	
Perfluoroheptanoic acid (PFHpA)	2.58	0.19	µg/kg dry	2.329	0.0299	109	54-154	0.534	25	
Perfluorooctanoic acid (PFOA)	2.79	0.19	µg/kg dry	2.329	0.138	114	52-161	0.427	25	
Perfluorononanoic acid (PFNA)	2.30	0.19	µg/kg dry	2.329	0.0183	98.1	59-149	6.57	25	
Perfluorodecanoic acid (PFDA)	2.44	0.19	µg/kg dry	2.329	ND	105	52-147	2.39	25	
Perfluoroundecanoic acid (PFUnA)	2.67	0.19	µg/kg dry	2.329	ND	114	48-159	4.64	30	
Perfluorododecanoic acid (PFDoA)	2.77	0.19	µg/kg dry	2.329	ND	119	64-142	0.247	25	
Perfluorotridecanoic acid (PFTrDA)	2.87	0.19	µg/kg dry	2.329	ND	123	49-148	1.69	25	
Perfluorotetradecanoic acid (PFTeDA)	2.67	0.19	µg/kg dry	2.329	ND	115	47-161	1.10	25	
Perfluorobutanesulfonic acid (PFBS)	2.25	0.19	µg/kg dry	2.066	ND	109	62-144	3.18	20	
Perfluoropentanesulfonic acid (PFPeS)	2.63	0.19	µg/kg dry	2.192	ND	120	59-151	0.317	25	
Perfluorohexanesulfonic acid (PFHxS)	2.44	0.19	µg/kg dry	2.129	ND	115	57-146	1.36	25	
Perfluoroheptanesulfonic acid (PFHpS)	2.67	0.19	µg/kg dry	2.220	ND	120	55-152	1.96	25	
Perfluorooctanesulfonic acid (PFOS)	2.49	0.19	µg/kg dry	2.162	0.271	103	58-149	1.36	20	
Perfluorononanesulfonic acid (PFNS)	2.64	0.19	µg/kg dry	2.241	ND	118	52-148	1.56	25	
Perfluorodecanesulfonic acid (PFDS)	2.73	0.19	µg/kg dry	2.248	ND	121	51-147	0.777	25	
Perfluorododecanesulfonic acid (PFDoS)	2.48	0.19	µg/kg dry	2.260	ND	110	36-145	0.0164	30	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.2	0.78	µg/kg dry	8.735	ND	128	67-146	6.24	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.7	0.78	µg/kg dry	8.852	ND	121	61-151	3.89	30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.9	0.78	µg/kg dry	8.945	ND	121	63-152	2.87	30	
Perfluorooctanesulfonamide (PFOSA)	2.72	0.19	µg/kg dry	2.329	ND	117	61-148	3.70	20	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.56	0.19	µg/kg dry	2.329	ND	110	63-145	12.8	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.32	0.19	µg/kg dry	2.329	ND	99.7	65-139	0.610	25	
N-MeFOSAA (NMeFOSAA)	2.63	0.19	µg/kg dry	2.329	ND	113	58-144	1.81	25	
N-EtFOSAA (NEtFOSAA)	2.42	0.19	µg/kg dry	2.329	ND	104	59-146	8.06	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	23.0	1.9	µg/kg dry	23.29	ND	98.9	71-136	0.498	20	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Matrix Spike Dup (B389767-MSD1)	**Source: 24J1727-04**			Prepared: 10/21/24 Analyzed: 10/29/24						
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	24.1	1.9	µg/kg dry	23.29	ND	103	69-137	2.91	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.18	0.78	µg/kg dry	9.318	ND	98.6	63-144	3.87	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.17	0.78	µg/kg dry	8.805	ND	104	68-146	5.47	20	
9Cl-PF3ONS (F53B Minor)	8.05	0.78	µg/kg dry	8.712	ND	92.4	56-156	5.80	30	
11Cl-PF3OUdS (F53B Major)	6.99	0.78	µg/kg dry	8.805	ND	79.4	46-156	9.36	35	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	24.4	1.9	µg/kg dry	23.29	ND	105	62-129	7.06	20	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	119	9.7	µg/kg dry	116.5	ND	102	63-134	5.64	20	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	124	9.7	µg/kg dry	116.5	ND	107	50-138	6.94	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.07	0.39	µg/kg dry	4.146	ND	122	56-151	0.902	20	
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.04	0.39	µg/kg dry	4.659	ND	108	51-145	3.14	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.38	0.39	µg/kg dry	4.659	ND	116	55-148	0.181	20	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.84	0.39	µg/kg dry	4.659	ND	125	48-161	1.81	35	
Surrogate: 13C4-PFBA	*8.18*		µg/kg dry	9.706		84.3	10-130			
Surrogate: 13C5-PFPeA	*4.63*		µg/kg dry	4.853		95.4	35-150			
Surrogate: 13C5-PFHxA	*2.20*		µg/kg dry	2.426		90.6	55-150			
Surrogate: 13C4-PFHpA	*2.41*		µg/kg dry	2.426		99.3	55-150			
Surrogate: 13C8-PFOA	*2.21*		µg/kg dry	2.426		90.9	60-140			
Surrogate: 13C9-PFNA	*1.23*		µg/kg dry	1.213		101	55-140			
Surrogate: 13C6-PFDA	*1.24*		µg/kg dry	1.213		102	50-140			
Surrogate: 13C7-PFUnA	*1.12*		µg/kg dry	1.213		92.1	30-140			
Surrogate: 13C2-PFDoA	*1.17*		µg/kg dry	1.213		96.7	10-150			
Surrogate: 13C2-PFTeDA	*1.16*		µg/kg dry	1.213		95.7	10-130			
Surrogate: 13C3-PFBS	*2.61*		µg/kg dry	2.426		108	55-150			
Surrogate: 13C3-PFHxS	*2.31*		µg/kg dry	2.426		95.3	55-150			
Surrogate: 13C8-PFOS	*2.35*		µg/kg dry	2.426		96.8	45-140			
Surrogate: 13C2-4:2FTS	*4.36*		µg/kg dry	4.853		89.8	60-200			
Surrogate: 13C2-6:2FTS	*4.35*		µg/kg dry	4.853		89.6	60-200			
Surrogate: 13C2-8:2FTS	*3.73*		µg/kg dry	4.853		76.8	50-200			
Surrogate: 13C8-PFOSA	*2.45*		µg/kg dry	2.426		101	30-130			
Surrogate: D3-NMeFOSA	*0.613*		µg/kg dry	2.426		25.3	15-130			
Surrogate: D5-NEtFOSA	*0.448*		µg/kg dry	2.426		18.5	10-130			
Surrogate: D3-NMeFOSAA	*5.21*		µg/kg dry	4.853		107	45-200			
Surrogate: D5-NEtFOSAA	*5.46*		µg/kg dry	4.853		112	10-200			
Surrogate: D7-NMeFOSE	*12.6*		µg/kg dry	24.26		51.7	10-150			
Surrogate: D9-NEtFOSE	*9.95*		µg/kg dry	24.26		41.0	10-150			
Surrogate: 13C3-HFPO-DA	*8.81*		µg/kg dry	9.706		90.8	25-160			
Batch B389893 - Draft Method 1633										
Blank (B389893-BLK1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.98	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.98	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389893 - Draft Method 1633										
Blank (B389893-BLK1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.98	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.98	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*74.9*		ng/L	97.58		76.7	10-130			
Surrogate: 13C5-PFPeA	*44.1*		ng/L	48.79		90.4	35-150			
Surrogate: 13C5-PFHxA	*21.9*		ng/L	24.40		89.9	55-150			
Surrogate: 13C4-PFHpA	*23.4*		ng/L	24.40		96.1	55-150			
Surrogate: 13C8-PFOA	*22.1*		ng/L	24.40		90.6	60-140			
Surrogate: 13C9-PFNA	*12.2*		ng/L	12.20		100	55-140			
Surrogate: 13C6-PFDA	*11.9*		ng/L	12.20		97.7	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389893 - Draft Method 1633										
Blank (B389893-BLK1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Surrogate: 13C7-PFUnA	*11.2*		ng/L	12.20		91.9	30-140			
Surrogate: 13C2-PFDoA	*12.8*		ng/L	12.20		105	10-150			
Surrogate: 13C2-PFTeDA	*13.1*		ng/L	12.20		108	10-130			
Surrogate: 13C3-PFBS	*25.0*		ng/L	24.40		102	55-150			
Surrogate: 13C3-PFHxS	*23.5*		ng/L	24.40		96.3	55-150			
Surrogate: 13C8-PFOS	*22.5*		ng/L	24.40		92.2	45-140			
Surrogate: 13C2-4:2FTS	*46.1*		ng/L	48.79		94.6	60-200			
Surrogate: 13C2-6:2FTS	*44.7*		ng/L	48.79		91.6	60-200			
Surrogate: 13C2-8:2FTS	*39.4*		ng/L	48.79		80.8	50-200			
Surrogate: 13C8-PFOSA	*24.2*		ng/L	24.40		99.4	30-130			
Surrogate: D3-NMeFOSA	*16.6*		ng/L	24.40		68.2	15-130			
Surrogate: D5-NEtFOSA	*18.6*		ng/L	24.40		76.2	10-130			
Surrogate: D3-NMeFOSAA	*48.4*		ng/L	48.79		99.3	45-200			
Surrogate: D5-NEtFOSAA	*50.0*		ng/L	48.79		102	10-200			
Surrogate: D7-NMeFOSE	*233*		ng/L	244.0		95.4	10-150			
Surrogate: D9-NEtFOSE	*223*		ng/L	244.0		91.3	10-150			
Surrogate: 13C3-HFPO-DA	*82.1*		ng/L	97.58		84.1	25-160			
LCS (B389893-BS1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Perfluorobutanoic acid (PFBA)	112	3.9	ng/L	94.71		118	58-148			
Perfluoropentanoic acid (PFPeA)	55.9	2.0	ng/L	47.35		118	54-152			
Perfluorohexanoic acid (PFHxA)	29.5	0.99	ng/L	23.68		125	55-152			
Perfluoroheptanoic acid (PFHpA)	27.0	0.99	ng/L	23.68		114	54-154			
Perfluorooctanoic acid (PFOA)	28.3	0.99	ng/L	23.68		120	52-161			
Perfluorononanoic acid (PFNA)	24.5	0.99	ng/L	23.68		104	59-149			
Perfluorodecanoic acid (PFDA)	25.4	0.99	ng/L	23.68		107	52-147			
Perfluoroundecanoic acid (PFUnA)	28.2	0.99	ng/L	23.68		119	48-159			
Perfluorododecanoic acid (PFDoA)	29.2	0.99	ng/L	23.68		123	64-142			
Perfluorotridecanoic acid (PFTrDA)	29.4	0.99	ng/L	23.68		124	49-148			
Perfluorotetradecanoic acid (PFTeDA)	29.6	0.99	ng/L	23.68		125	47-161			
Perfluorobutanesulfonic acid (PFBS)	24.5	0.99	ng/L	21.00		117	62-144			
Perfluoropentanesulfonic acid (PFPeS)	27.9	0.99	ng/L	22.28		125	59-151			
Perfluorohexanesulfonic acid (PFHxS)	24.9	0.99	ng/L	21.64		115	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	26.7	0.99	ng/L	22.56		118	55-152			
Perfluorooctanesulfonic acid (PFOS)	25.1	0.99	ng/L	21.97		114	58-149			
Perfluorononanesulfonic acid (PFNS)	26.9	0.99	ng/L	22.78		118	52-148			
Perfluorodecanesulfonic acid (PFDS)	27.1	0.99	ng/L	22.85		119	51-147			
Perfluorododecanesulfonic acid (PFDoS)	25.1	0.99	ng/L	22.97		109	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	122	3.9	ng/L	88.79		138	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	119	3.9	ng/L	89.97		132	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	111	3.9	ng/L	90.92		123	63-152			
Perfluorooctanesulfonamide (PFOSA)	27.5	0.99	ng/L	23.68		116	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	26.1	0.99	ng/L	23.68		110	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	24.2	0.99	ng/L	23.68		102	65-139			
N-MeFOSAA (NMeFOSAA)	28.3	0.99	ng/L	23.68		120	58-144			
N-EtFOSAA (NEtFOSAA)	23.4	0.99	ng/L	23.68		98.9	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	255	9.9	ng/L	236.8		108	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	256	9.9	ng/L	236.8		108	69-137			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389893 - Draft Method 1633										
LCS (B389893-BS1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Hexafluoropropylene oxide dimer acid (HFPO-DA)	102	3.9	ng/L	94.71		107	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	104	3.9	ng/L	89.50		116	68-146			
9Cl-PF3ONS (F53B Minor)	85.7	3.9	ng/L	88.55		96.8	56-156			
11Cl-PF3OUdS (F53B Major)	75.7	3.9	ng/L	89.50		84.5	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	285	9.9	ng/L	236.8		120	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1320	49	ng/L	1184		111	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1300	49	ng/L	1184		109	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	49.5	2.0	ng/L	42.14		118	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	52.1	2.0	ng/L	47.35		110	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	56.8	2.0	ng/L	47.35		120	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	58.0	2.0	ng/L	47.35		123	48-161			
Surrogate: 13C4-PFBA	*72.6*		ng/L	98.65		73.6	10-130			
Surrogate: 13C5-PFPeA	*40.6*		ng/L	49.33		82.3	35-150			
Surrogate: 13C5-PFHxA	*20.0*		ng/L	24.66		81.1	55-150			
Surrogate: 13C4-PFHpA	*21.6*		ng/L	24.66		87.6	55-150			
Surrogate: 13C8-PFOA	*19.7*		ng/L	24.66		80.0	60-140			
Surrogate: 13C9-PFNA	*11.0*		ng/L	12.33		89.0	55-140			
Surrogate: 13C6-PFDA	*11.3*		ng/L	12.33		91.4	50-140			
Surrogate: 13C7-PFUnA	*9.95*		ng/L	12.33		80.7	30-140			
Surrogate: 13C2-PFDoA	*10.5*		ng/L	12.33		85.1	10-150			
Surrogate: 13C2-PFTeDA	*10.1*		ng/L	12.33		82.0	10-130			
Surrogate: 13C3-PFBS	*21.9*		ng/L	24.66		88.9	55-150			
Surrogate: 13C3-PFHxS	*19.9*		ng/L	24.66		80.5	55-150			
Surrogate: 13C8-PFOS	*21.0*		ng/L	24.66		85.0	45-140			
Surrogate: 13C2-4:2FTS	*36.9*		ng/L	49.33		74.8	60-200			
Surrogate: 13C2-6:2FTS	*36.7*		ng/L	49.33		74.5	60-200			
Surrogate: 13C2-8:2FTS	*33.4*		ng/L	49.33		67.7	50-200			
Surrogate: 13C8-PFOSA	*22.5*		ng/L	24.66		91.4	30-130			
Surrogate: D3-NMeFOSA	*16.6*		ng/L	24.66		67.3	15-130			
Surrogate: D5-NEtFOSA	*17.8*		ng/L	24.66		72.1	10-130			
Surrogate: D3-NMeFOSAA	*43.9*		ng/L	49.33		89.0	45-200			
Surrogate: D5-NEtFOSAA	*47.8*		ng/L	49.33		96.9	10-200			
Surrogate: D7-NMeFOSE	*206*		ng/L	246.6		83.7	10-150			
Surrogate: D9-NEtFOSE	*193*		ng/L	246.6		78.1	10-150			
Surrogate: 13C3-HFPO-DA	*77.7*		ng/L	98.65		78.8	25-160			
MRL Check (B389893-MRL1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Perfluorobutanoic acid (PFBA)	9.17	4.0	ng/L	7.914		116	44-157			
Perfluoropentanoic acid (PFPeA)	4.92	2.0	ng/L	3.957		124	57-148			
Perfluorohexanoic acid (PFHxA)	2.59	0.99	ng/L	1.979		131	62-149			
Perfluoroheptanoic acid (PFHpA)	2.36	0.99	ng/L	1.979		119	56-150			
Perfluorooctanoic acid (PFOA)	2.52	0.99	ng/L	1.979		127	57-161			
Perfluorononanoic acid (PFNA)	2.07	0.99	ng/L	1.979		104	53-157			
Perfluorodecanoic acid (PFDA)	2.26	0.99	ng/L	1.979		114	43-158			
Perfluoroundecanoic acid (PFUnA)	2.37	0.99	ng/L	1.979		120	50-155			
Perfluorododecanoic acid (PFDoA)	2.37	0.99	ng/L	1.979		120	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.45	0.99	ng/L	1.979		124	52-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389893 - Draft Method 1633										
MRL Check (B389893-MRL1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Perfluorotetradecanoic acid (PFTeDA)	2.27	0.99	ng/L	1.979		115	52-156			
Perfluorobutanesulfonic acid (PFBS)	2.06	0.99	ng/L	1.755		117	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.18	0.99	ng/L	1.862		117	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.14	0.99	ng/L	1.808		118	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.48	0.99	ng/L	1.886		131	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.34	0.99	ng/L	1.836		128	43-162			
Perfluorononanesulfonic acid (PFNS)	2.34	0.99	ng/L	1.903		123	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.31	0.99	ng/L	1.909		121	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.15	0.99	ng/L	1.919		112	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.39	4.0	ng/L	7.419		127	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.60	4.0	ng/L	7.518		128	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	9.93	4.0	ng/L	7.597		131	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.53	0.99	ng/L	1.979		128	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.62	0.99	ng/L	1.979		132	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.27	0.99	ng/L	1.979		115	49-156			
N-MeFOSAA (NMeFOSAA)	2.36	0.99	ng/L	1.979		119	32-160			
N-EtFOSAA (NEtFOSAA)	2.20	0.99	ng/L	1.979		111	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	23.7	9.9	ng/L	19.79		120	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.8	9.9	ng/L	19.79		115	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.93	4.0	ng/L	7.914		113	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.14	4.0	ng/L	7.479		122	61-148			
9Cl-PF3ONS (F53B Minor)	7.29	4.0	ng/L	7.400		98.5	44-167			
11Cl-PF3OUdS (F53B Major)	6.40	4.0	ng/L	7.479		85.5	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	24.3	9.9	ng/L	19.79		123	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	109	49	ng/L	98.93		110	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	97.4	49	ng/L	98.93		98.5	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.86	2.0	ng/L	3.522		110	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.27	2.0	ng/L	3.957		108	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.41	2.0	ng/L	3.957		112	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.23	2.0	ng/L	3.957		107	47-160			
Surrogate: 13C4-PFBA	*71.3*		ng/L	98.93		72.0	10-130			
Surrogate: 13C5-PFPeA	*38.4*		ng/L	49.46		77.7	35-150			
Surrogate: 13C5-PFHxA	*19.3*		ng/L	24.73		77.9	55-150			
Surrogate: 13C4-PFHpA	*20.3*		ng/L	24.73		82.1	55-150			
Surrogate: 13C8-PFOA	*19.0*		ng/L	24.73		76.9	60-140			
Surrogate: 13C9-PFNA	*10.7*		ng/L	12.37		86.5	55-140			
Surrogate: 13C6-PFDA	*9.98*		ng/L	12.37		80.7	50-140			
Surrogate: 13C7-PFUnA	*9.08*		ng/L	12.37		73.4	30-140			
Surrogate: 13C2-PFDoA	*9.56*		ng/L	12.37		77.3	10-150			
Surrogate: 13C2-PFTeDA	*9.91*		ng/L	12.37		80.1	10-130			
Surrogate: 13C3-PFBS	*22.2*		ng/L	24.73		89.8	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389893 - Draft Method 1633										
MRL Check (B389893-MRL1)				Prepared: 10/22/24 Analyzed: 10/28/24						
Surrogate: 13C3-PFHxS	*20.9*		ng/L	24.73		84.4	55-150			
Surrogate: 13C8-PFOS	*20.1*		ng/L	24.73		81.4	45-140			
Surrogate: 13C2-4:2FTS	*42.0*		ng/L	49.46		85.0	60-200			
Surrogate: 13C2-6:2FTS	*39.1*		ng/L	49.46		79.0	60-200			
Surrogate: 13C2-8:2FTS	*33.0*		ng/L	49.46		66.7	50-200			
Surrogate: 13C8-PFOSA	*20.3*		ng/L	24.73		82.2	30-130			
Surrogate: D3-NMeFOSA	*16.4*		ng/L	24.73		66.2	15-130			
Surrogate: D5-NEtFOSA	*17.2*		ng/L	24.73		69.5	10-130			
Surrogate: D3-NMeFOSAA	*40.3*		ng/L	49.46		81.4	45-200			
Surrogate: D5-NEtFOSAA	*41.7*		ng/L	49.46		84.4	10-200			
Surrogate: D7-NMeFOSE	*200*		ng/L	247.3		81.1	10-150			
Surrogate: D9-NEtFOSE	*189*		ng/L	247.3		76.3	10-150			
Surrogate: 13C3-HFPO-DA	*72.3*		ng/L	98.93		73.1	25-160			
Batch B390329 - Draft Method 1633										
Blank (B390329-BLK1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
Blank (B390329-BLK1)				Prepared: 10/30/24 Analyzed: 11/01/24						
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	*8.74*		µg/kg wet	9.856		88.7	10-130			
Surrogate: 13C5-PFPeA	*4.70*		µg/kg wet	4.928		95.4	35-150			
Surrogate: 13C5-PFHxA	*2.34*		µg/kg wet	2.464		94.8	55-150			
Surrogate: 13C4-PFHpA	*2.35*		µg/kg wet	2.464		95.6	55-150			
Surrogate: 13C8-PFOA	*2.36*		µg/kg wet	2.464		95.7	60-140			
Surrogate: 13C9-PFNA	*1.19*		µg/kg wet	1.232		96.8	55-140			
Surrogate: 13C6-PFDA	*1.27*		µg/kg wet	1.232		103	50-140			
Surrogate: 13C7-PFUnA	*1.15*		µg/kg wet	1.232		93.0	30-140			
Surrogate: 13C2-PFDoA	*1.22*		µg/kg wet	1.232		99.2	10-150			
Surrogate: 13C2-PFTeDA	*1.08*		µg/kg wet	1.232		87.4	10-130			
Surrogate: 13C3-PFBS	*2.77*		µg/kg wet	2.464		112	55-150			
Surrogate: 13C3-PFHxS	*2.45*		µg/kg wet	2.464		99.4	55-150			
Surrogate: 13C8-PFOS	*2.46*		µg/kg wet	2.464		100	45-140			
Surrogate: 13C2-4:2FTS	*5.23*		µg/kg wet	4.928		106	60-200			
Surrogate: 13C2-6:2FTS	*4.77*		µg/kg wet	4.928		96.8	60-200			
Surrogate: 13C2-8:2FTS	*4.15*		µg/kg wet	4.928		84.2	50-200			
Surrogate: 13C8-PFOSA	*2.71*		µg/kg wet	2.464		110	30-130			
Surrogate: D3-NMeFOSA	*1.61*		µg/kg wet	2.464		65.5	15-130			
Surrogate: D5-NEtFOSA	*1.38*		µg/kg wet	2.464		56.0	10-130			
Surrogate: D3-NMeFOSAA	*5.42*		µg/kg wet	4.928		110	45-200			
Surrogate: D5-NEtFOSAA	*5.52*		µg/kg wet	4.928		112	10-200			
Surrogate: D7-NMeFOSE	*19.1*		µg/kg wet	24.64		77.4	10-150			
Surrogate: D9-NEtFOSE	*15.5*		µg/kg wet	24.64		63.1	10-150			
Surrogate: 13C3-HFPO-DA	*8.89*		µg/kg wet	9.856		90.2	25-160			
LCS (B390329-BS1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	8.52	0.80	µg/kg wet	9.560		89.1	58-148			
Perfluoropentanoic acid (PFPeA)	4.26	0.40	µg/kg wet	4.780		89.1	54-152			
Perfluorohexanoic acid (PFHxA)	2.22	0.20	µg/kg wet	2.390		92.8	55-152			
Perfluoroheptanoic acid (PFHpA)	2.02	0.20	µg/kg wet	2.390		84.7	54-154			
Perfluorooctanoic acid (PFOA)	2.17	0.20	µg/kg wet	2.390		90.9	52-161			
Perfluorononanoic acid (PFNA)	1.82	0.20	µg/kg wet	2.390		76.1	59-149			
Perfluorodecanoic acid (PFDA)	1.98	0.20	µg/kg wet	2.390		83.0	52-147			
Perfluoroundecanoic acid (PFUnA)	2.17	0.20	µg/kg wet	2.390		90.7	48-159			
Perfluorododecanoic acid (PFDoA)	2.25	0.20	µg/kg wet	2.390		94.1	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.22	0.20	µg/kg wet	2.390		92.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.10	0.20	µg/kg wet	2.390		87.9	47-161			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
LCS (B390329-BS1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanesulfonic acid (PFBS)	1.81	0.20	µg/kg wet	2.120		85.5	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.13	0.20	µg/kg wet	2.249		94.8	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.87	0.20	µg/kg wet	2.184		85.5	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.06	0.20	µg/kg wet	2.278		90.6	55-152			
Perfluorooctanesulfonic acid (PFOS)	1.86	0.20	µg/kg wet	2.218		83.7	58-149			
Perfluorononanesulfonic acid (PFNS)	1.99	0.20	µg/kg wet	2.299		86.7	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.27	0.20	µg/kg wet	2.306		98.3	51-147			
Perfluorododecanesulfonic acid (PFDoS)	1.76	0.20	µg/kg wet	2.318		76.0	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.80	0.80	µg/kg wet	8.962		98.2	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.54	0.80	µg/kg wet	9.082		94.0	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.87	0.80	µg/kg wet	9.177		96.6	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.15	0.20	µg/kg wet	2.390		90.0	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.96	0.20	µg/kg wet	2.390		82.2	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.80	0.20	µg/kg wet	2.390		75.5	65-139			
N-MeFOSAA (NMeFOSAA)	2.05	0.20	µg/kg wet	2.390		85.7	58-144			
N-EtFOSAA (NEtFOSAA)	1.86	0.20	µg/kg wet	2.390		78.0	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	19.0	2.0	µg/kg wet	23.90		79.5	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	19.3	2.0	µg/kg wet	23.90		80.9	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.25	0.80	µg/kg wet	9.560		96.8	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.70	0.80	µg/kg wet	9.034		96.3	68-146			
9Cl-PF3ONS (F53B Minor)	7.26	0.80	µg/kg wet	8.938		81.2	56-156			
11Cl-PF3OUdS (F53B Major)	6.17	0.80	µg/kg wet	9.034		68.3	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	24.2	2.0	µg/kg wet	23.90		101	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	118	10	µg/kg wet	119.5		99.0	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	121	10	µg/kg wet	119.5		101	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.11	0.40	µg/kg wet	4.254		96.5	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.49	0.40	µg/kg wet	4.780		94.0	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.83	0.40	µg/kg wet	4.780		101	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.94	0.40	µg/kg wet	4.780		103	48-161			
Surrogate: 13C4-PFBA	*8.43*		µg/kg wet	9.958		84.7	10-130			
Surrogate: 13C5-PFPeA	*4.73*		µg/kg wet	4.979		95.0	35-150			
Surrogate: 13C5-PFHxA	*2.34*		µg/kg wet	2.490		94.1	55-150			
Surrogate: 13C4-PFHpA	*2.44*		µg/kg wet	2.490		97.9	55-150			
Surrogate: 13C8-PFOA	*2.27*		µg/kg wet	2.490		91.2	60-140			
Surrogate: 13C9-PFNA	*1.31*		µg/kg wet	1.245		105	55-140			
Surrogate: 13C6-PFDA	*1.33*		µg/kg wet	1.245		107	50-140			
Surrogate: 13C7-PFUnA	*1.19*		µg/kg wet	1.245		95.4	30-140			
Surrogate: 13C2-PFDoA	*1.24*		µg/kg wet	1.245		99.8	10-150			
Surrogate: 13C2-PFTeDA	*1.09*		µg/kg wet	1.245		87.4	10-130			
Surrogate: 13C3-PFBS	*2.74*		µg/kg wet	2.490		110	55-150			
Surrogate: 13C3-PFHxS	*2.43*		µg/kg wet	2.490		97.8	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
LCS (B390329-BS1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Surrogate: 13C8-PFOS	*2.54*		µg/kg wet	2.490		102	45-140			
Surrogate: 13C2-4:2FTS	*5.05*		µg/kg wet	4.979		101	60-200			
Surrogate: 13C2-6:2FTS	*4.77*		µg/kg wet	4.979		95.7	60-200			
Surrogate: 13C2-8:2FTS	*3.96*		µg/kg wet	4.979		79.5	50-200			
Surrogate: 13C8-PFOSA	*2.88*		µg/kg wet	2.490		116	30-130			
Surrogate: D3-NMeFOSA	*2.07*		µg/kg wet	2.490		83.0	15-130			
Surrogate: D5-NEtFOSA	*2.10*		µg/kg wet	2.490		84.2	10-130			
Surrogate: D3-NMeFOSAA	*5.66*		µg/kg wet	4.979		114	45-200			
Surrogate: D5-NEtFOSAA	*6.01*		µg/kg wet	4.979		121	10-200			
Surrogate: D7-NMeFOSE	*21.1*		µg/kg wet	24.90		84.7	10-150			
Surrogate: D9-NEtFOSE	*18.1*		µg/kg wet	24.90		72.5	10-150			
Surrogate: 13C3-HFPO-DA	*9.35*		µg/kg wet	9.958		93.9	25-160			
MRL Check (B390329-MRL1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	0.651	0.78	µg/kg wet	0.7825		83.2	44-157			
Perfluoropentanoic acid (PFPeA)	0.374	0.39	µg/kg wet	0.3912		95.5	57-148			
Perfluorohexanoic acid (PFHxA)	0.199	0.20	µg/kg wet	0.1956		102	62-149			
Perfluoroheptanoic acid (PFHpA)	0.189	0.20	µg/kg wet	0.1956		96.5	56-150			
Perfluorooctanoic acid (PFOA)	0.194	0.20	µg/kg wet	0.1956		99.3	57-161			
Perfluorononanoic acid (PFNA)	0.150	0.20	µg/kg wet	0.1956		76.5	53-157			
Perfluorodecanoic acid (PFDA)	0.170	0.20	µg/kg wet	0.1956		86.8	43-158			
Perfluoroundecanoic acid (PFUnA)	0.188	0.20	µg/kg wet	0.1956		95.9	50-155			
Perfluorododecanoic acid (PFDoA)	0.196	0.20	µg/kg wet	0.1956		100	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.190	0.20	µg/kg wet	0.1956		97.2	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.184	0.20	µg/kg wet	0.1956		94.3	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.162	0.20	µg/kg wet	0.1735		93.4	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.178	0.20	µg/kg wet	0.1841		96.6	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.171	0.20	µg/kg wet	0.1788		95.8	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.176	0.20	µg/kg wet	0.1864		94.4	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.190	0.20	µg/kg wet	0.1815		105	43-162			
Perfluorononanesulfonic acid (PFNS)	0.174	0.20	µg/kg wet	0.1882		92.7	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.189	0.20	µg/kg wet	0.1888		100	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.154	0.20	µg/kg wet	0.1897		81.3	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.731	0.78	µg/kg wet	0.7336		99.6	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.767	0.78	µg/kg wet	0.7433		103	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.799	0.78	µg/kg wet	0.7512		106	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.177	0.20	µg/kg wet	0.1956		90.6	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.166	0.20	µg/kg wet	0.1956		84.7	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.174	0.20	µg/kg wet	0.1956		89.1	49-156			
N-MeFOSAA (NMeFOSAA)	0.202	0.20	µg/kg wet	0.1956		103	32-160			
N-EtFOSAA (NEtFOSAA)	0.152	0.20	µg/kg wet	0.1956		77.6	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	1.61	2.0	µg/kg wet	1.956		82.3	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	1.64	2.0	µg/kg wet	1.956		83.7	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.786	0.78	µg/kg wet	0.7825		100	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.689	0.78	µg/kg wet	0.7394		93.1	61-148			
9Cl-PF3ONS (F53B Minor)	0.609	0.78	µg/kg wet	0.7316		83.2	44-167			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
MRL Check (B390329-MRL1)				Prepared: 10/30/24 Analyzed: 11/01/24						
11Cl-PF3OUdS (F53B Major)	0.519	0.78	µg/kg wet	0.7394		70.2	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.77	2.0	µg/kg wet	1.956		90.5	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	8.60	9.8	µg/kg wet	9.781		87.9	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	8.52	9.8	µg/kg wet	9.781		87.1	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.315	0.39	µg/kg wet	0.3482		90.4	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.356	0.39	µg/kg wet	0.3912		91.0	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.387	0.39	µg/kg wet	0.3912		98.9	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.368	0.39	µg/kg wet	0.3912		94.1	47-160			
Surrogate: 13C4-PFBA	*8.19*		µg/kg wet	9.781		83.8	10-130			
Surrogate: 13C5-PFPeA	*4.36*		µg/kg wet	4.890		89.1	35-150			
Surrogate: 13C5-PFHxA	*2.18*		µg/kg wet	2.445		89.0	55-150			
Surrogate: 13C4-PFHpA	*2.21*		µg/kg wet	2.445		90.5	55-150			
Surrogate: 13C8-PFOA	*2.20*		µg/kg wet	2.445		90.0	60-140			
Surrogate: 13C9-PFNA	*1.23*		µg/kg wet	1.223		100	55-140			
Surrogate: 13C6-PFDA	*1.25*		µg/kg wet	1.223		102	50-140			
Surrogate: 13C7-PFUnA	*1.04*		µg/kg wet	1.223		85.2	30-140			
Surrogate: 13C2-PFDoA	*1.13*		µg/kg wet	1.223		92.2	10-150			
Surrogate: 13C2-PFTeDA	*0.976*		µg/kg wet	1.223		79.9	10-130			
Surrogate: 13C3-PFBS	*2.55*		µg/kg wet	2.445		104	55-150			
Surrogate: 13C3-PFHxS	*2.39*		µg/kg wet	2.445		97.7	55-150			
Surrogate: 13C8-PFOS	*2.45*		µg/kg wet	2.445		100	45-140			
Surrogate: 13C2-4:2FTS	*5.02*		µg/kg wet	4.890		103	60-200			
Surrogate: 13C2-6:2FTS	*4.71*		µg/kg wet	4.890		96.3	60-200			
Surrogate: 13C2-8:2FTS	*3.88*		µg/kg wet	4.890		79.4	50-200			
Surrogate: 13C8-PFOSA	*2.61*		µg/kg wet	2.445		107	30-130			
Surrogate: D3-NMeFOSA	*1.86*		µg/kg wet	2.445		76.1	15-130			
Surrogate: D5-NEtFOSA	*1.72*		µg/kg wet	2.445		70.2	10-130			
Surrogate: D3-NMeFOSAA	*5.16*		µg/kg wet	4.890		106	45-200			
Surrogate: D5-NEtFOSAA	*5.51*		µg/kg wet	4.890		113	10-200			
Surrogate: D7-NMeFOSE	*18.5*		µg/kg wet	24.45		75.5	10-150			
Surrogate: D9-NEtFOSE	*14.7*		µg/kg wet	24.45		60.1	10-150			
Surrogate: 13C3-HFPO-DA	*9.10*		µg/kg wet	9.781		93.1	25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389019 - Draft Method 1633										
Blank (B389019-BLK1)				Prepared & Analyzed: 10/11/24						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B389019-BS1)				Prepared & Analyzed: 10/11/24						
Total Suspended Solids	182	2.5	mg/L	200.0		91.0	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-17C	Extracted internal standard is outside of control limits. Analyte is a known difficult compound.
PF-18	Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.
PF-22	Qualifier ion ratio >150% of associated calibration. Detection is suspect.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.
S-29	Extracted Internal Standard is outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV
Perfluorotetradecanoic acid (PFTeDA)	NH-P,PA,WV
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,WV
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,WV
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,WV
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,WV
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV
N-EtFOSAA (NEtFOSAA)	NH-P,PA,WV
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,WV
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,WV
9Cl-PF3ONS (F53B Minor)	NH-P,PA,WV
11Cl-PF3OUdS (F53B Major)	NH-P,PA,WV
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,WV
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,PA,WV
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J7127 RF

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Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Company Name: Michael Baker Intl
Address: 100 Airside Dr 15108
Phone: 412 269 6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189452
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time Requested (TAT)
7-Day ☐ 10-Day ☑
PFAS 7-Day (std) ☐ Due Date:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Field Filtered ○
Lab to Filter ○
Field Filtered ○
Lab to Filter ○

Report Format
Format: PDF ☑ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP / GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1	GWG-2	10/8/24	1800	G	GW				3			X
2	GWG-3	↓	1530		↓				3			
3	GWG-25	↓	1700		↓				3			
4	SB-1-1	10/9/24	0945		S				1			
5	SB-1-1MS		0945									
6	SB-1-1MSD		0945									
7	SB-4-1		1050									
8	SB-4-7		1055									
9	SB-2-1		1145									
9	SB-2-8	↓	1150	↓	↓				↓			

Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

	Date/Time:
Relinquished by: (signature)	10/9/24 1315
Received by: (signature)	10/9/24 1315
Relinquished by: (signature)	10/9 1615
Received by: (signature)	10/9/16/10
Relinquished by: (signature)	10/9/16'42
Received by: (signature)	10-9-24 2100
Relinquished by: (signature)	10/10/24 0830
Received by: (signature)	10/10/24 0830

Client Comments:

Special Requirements
MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☑ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
Chromatogram ☐
AIHA-LAP,LLC ☐

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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24J7727 RF

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

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| | | |

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client: Michael Baker International

Project: Sagertown PFAS

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: Sagertown, PA

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mam 10/10/24 0930

Back-Sheet By / Date / Time: Mam 10/11/24 0508

Temperature Method: Gun # 4

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 0.2

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Received extra sample (SB-1-8) ... pm notified

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Qualtrax ID: 120836

Qualtrax ID: 120836

Sample	Soils Jars (Circle Amb/Clear)				Ambers						Plastics												VOA Vials				Other / Fill in			
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter		250mL			100mL	1 Liter		500mL	250mL																
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact				
1					2																									
2					→																									
3					→																									
4														3																
5														1																
6														→																
7														→																
8														→																
9														→																
10														→																
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15																														
16																														
17																														
18																														
19																														
20																														

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

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November 1, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24J1981

Enclosed are results of analyses for samples as received by the laboratory on October 11, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 11/1/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J1981

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SB-7-1	24J1981-01	Soil		Draft Method 1633	
				SM 2540G	
SB-7-18	24J1981-02	Soil		Draft Method 1633	
				SM 2540G	
SB-6-1	24J1981-03	Soil		Draft Method 1633	
				SM 2540G	
SB-6-7	24J1981-04	Soil		Draft Method 1633	
				SM 2540G	
SB-6-7DUP	24J1981-05	Soil		Draft Method 1633	
				SM 2540G	
SB-3-5	24J1981-06	Soil		Draft Method 1633	
				SM 2540G	
GWG-7	24J1981-07	Ground Water		Draft Method 1633	
GWG-7DUP	24J1981-08	Ground Water		Draft Method 1633	
GWG-6	24J1981-09	Ground Water		Draft Method 1633	
GWG-6DUP	24J1981-10	Ground Water		Draft Method 1633	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Draft Method 1633

Qualifications:

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C2-PFTeDA
S112918-CCV4, S112944-CCV2, S113142-CCV3

13C8-PFOSA
S112918-CCV2, S112944-CCV2, S112944-CCV3, S113142-CCV2, S113142-CCV3, S113224-CCV2

D5-NEtFOSA
S112809-CCV2, S113142-CCV3

D7-NMeFOSE
S113224-CCV2

D9-NEtFOSE
S112809-CCV2

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
S112809-CCV2

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S112809-CCV2

N-MeFOSAA (NMeFOSAA)
S113142-CCV3

N-methylperfluorooctanesulfonamidoethanol(NMeF
S113224-CCV2

Perfluorooctanesulfonamide (PFOSA)
S112918-CCV2, S112944-CCV2, S112944-CCV3, S113142-CCV2, S113142-CCV3, S113224-CCV2

Perfluorotetradecanoic acid (PFTeDA)
S112918-CCV4, S112944-CCV2, S113142-CCV3

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-1 | Sampled: 10/10/2024 13:40

Sample ID: 24J1981-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-1 | Sampled: 10/10/2024 13:40

Sample ID: 24J1981-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:36	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	75.0	10-130		10/29/24 1:36
13C5-PFPeA	84.2	35-150		10/29/24 1:36
13C5-PFHxA	84.7	55-150		10/29/24 1:36
13C4-PFHpA	90.4	55-150		10/29/24 1:36
13C8-PFOA	81.6	60-140		10/29/24 1:36
13C9-PFNA	93.9	55-140		10/29/24 1:36
13C6-PFDA	88.3	50-140		10/29/24 1:36
13C7-PFUnA	83.0	30-140		10/29/24 1:36
13C2-PFDoA	85.4	10-150		10/29/24 1:36
13C2-PFTeDA	87.7	10-130		10/29/24 1:36
13C3-PFBS	94.6	55-150		10/29/24 1:36
13C3-PFHxS	88.2	55-150		10/29/24 1:36
13C8-PFOS	90.2	45-140		10/29/24 1:36
13C2-4:2FTS	83.8	60-200		10/29/24 1:36
13C2-6:2FTS	85.4	60-200		10/29/24 1:36
13C2-8:2FTS	80.6	50-200		10/29/24 1:36
13C8-PFOSA	93.1	30-130		10/29/24 1:36
D3-NMeFOSA	36.5	15-130		10/29/24 1:36
D5-NEtFOSA	30.1	10-130		10/29/24 1:36
D3-NMeFOSAA	99.6	45-200		10/29/24 1:36
D5-NEtFOSAA	105	10-200		10/29/24 1:36
D7-NMeFOSE	68.8	10-150		10/29/24 1:36
D9-NEtFOSE	63.7	10-150		10/29/24 1:36
13C3-HFPO-DA	80.1	25-160		10/29/24 1:36

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-1 | Sampled: 10/10/2024 13:40

Sample ID: 24J1981-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.1		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-18 | Sampled: 10/10/2024 13:45

Sample ID: 24J1981-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-18 | Sampled: 10/10/2024 13:45

Sample ID: 24J1981-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 1:52	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	74.9	10-130		10/29/24 1:52
13C5-PFPeA	86.6	35-150		10/29/24 1:52
13C5-PFHxA	84.6	55-150		10/29/24 1:52
13C4-PFHpA	91.1	55-150		10/29/24 1:52
13C8-PFOA	82.1	60-140		10/29/24 1:52
13C9-PFNA	92.3	55-140		10/29/24 1:52
13C6-PFDA	94.4	50-140		10/29/24 1:52
13C7-PFUnA	85.7	30-140		10/29/24 1:52
13C2-PFDoA	87.5	10-150		10/29/24 1:52
13C2-PFTeDA	89.5	10-130		10/29/24 1:52
13C3-PFBS	97.7	55-150		10/29/24 1:52
13C3-PFHxS	89.9	55-150		10/29/24 1:52
13C8-PFOS	91.2	45-140		10/29/24 1:52
13C2-4:2FTS	90.9	60-200		10/29/24 1:52
13C2-6:2FTS	90.4	60-200		10/29/24 1:52
13C2-8:2FTS	75.6	50-200		10/29/24 1:52
13C8-PFOSA	92.1	30-130		10/29/24 1:52
D3-NMeFOSA	42.6	15-130		10/29/24 1:52
D5-NEtFOSA	26.9	10-130		10/29/24 1:52
D3-NMeFOSAA	93.7	45-200		10/29/24 1:52
D5-NEtFOSAA	102	10-200		10/29/24 1:52
D7-NMeFOSE	71.8	10-150		10/29/24 1:52
D9-NEtFOSE	61.3	10-150		10/29/24 1:52
13C3-HFPO-DA	87.0	25-160		10/29/24 1:52

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-7-18 | Sampled: 10/10/2024 13:45

Sample ID: 24J1981-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.7		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-1 | Sampled: 10/10/2024 16:10

Sample ID: 24J1981-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorohexanesulfonic acid (PFHxS)	5.2	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoroheptanesulfonic acid (PFHpS)	0.50	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorooctanesulfonic acid (PFOS)	34	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-1 | Sampled: 10/10/2024 16:10

Sample ID: 24J1981-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:08	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	74.8	10-130		10/29/24 2:08
13C5-PFPeA	85.5	35-150		10/29/24 2:08
13C5-PFHxA	84.8	55-150		10/29/24 2:08
13C4-PFHpA	88.5	55-150		10/29/24 2:08
13C8-PFOA	82.3	60-140		10/29/24 2:08
13C9-PFNA	96.3	55-140		10/29/24 2:08
13C6-PFDA	89.1	50-140		10/29/24 2:08
13C7-PFUnA	83.4	30-140		10/29/24 2:08
13C2-PFDoA	84.2	10-150		10/29/24 2:08
13C2-PFTeDA	83.6	10-130		10/29/24 2:08
13C3-PFBS	99.3	55-150		10/29/24 2:08
13C3-PFHxS	87.1	55-150		10/29/24 2:08
13C8-PFOS	90.8	45-140		10/29/24 2:08
13C2-4:2FTS	88.0	60-200		10/29/24 2:08
13C2-6:2FTS	87.6	60-200		10/29/24 2:08
13C2-8:2FTS	77.7	50-200		10/29/24 2:08
13C8-PFOSA	103	30-130		10/29/24 2:08
D3-NMeFOSA	31.1	15-130		10/29/24 2:08
D5-NEtFOSA	21.7	10-130		10/29/24 2:08
D3-NMeFOSAA	96.1	45-200		10/29/24 2:08
D5-NEtFOSAA	96.6	10-200		10/29/24 2:08
D7-NMeFOSE	67.3	10-150		10/29/24 2:08
D9-NEtFOSE	56.2	10-150		10/29/24 2:08
13C3-HFPO-DA	82.8	25-160		10/29/24 2:08

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-1 | Sampled: 10/10/2024 16:10

Sample ID: 24J1981-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.0		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7 | Sampled: 10/10/2024 16:15

Sample ID: 24J1981-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorohexanesulfonic acid (PFHxS)	0.58	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7 | Sampled: 10/10/2024 16:15

Sample ID: 24J1981-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/21/24	10/29/24 2:23	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	73.3	10-130		10/29/24 2:23
13C5-PFPeA	77.7	35-150		10/29/24 2:23
13C5-PFHxA	78.5	55-150		10/29/24 2:23
13C4-PFHpA	83.2	55-150		10/29/24 2:23
13C8-PFOA	77.3	60-140		10/29/24 2:23
13C9-PFNA	88.5	55-140		10/29/24 2:23
13C6-PFDA	89.8	50-140		10/29/24 2:23
13C7-PFUnA	84.4	30-140		10/29/24 2:23
13C2-PFDoA	87.2	10-150		10/29/24 2:23
13C2-PFTeDA	102	10-130		10/29/24 2:23
13C3-PFBS	87.7	55-150		10/29/24 2:23
13C3-PFHxS	81.4	55-150		10/29/24 2:23
13C8-PFOS	80.4	45-140		10/29/24 2:23
13C2-4:2FTS	80.6	60-200		10/29/24 2:23
13C2-6:2FTS	84.8	60-200		10/29/24 2:23
13C2-8:2FTS	86.9	50-200		10/29/24 2:23
13C8-PFOSA	82.6	30-130		10/29/24 2:23
D3-NMeFOSA	18.3	15-130		10/29/24 2:23
D5-NEtFOSA	12.6	10-130		10/29/24 2:23
D3-NMeFOSAA	95.7	45-200		10/29/24 2:23
D5-NEtFOSAA	94.9	10-200		10/29/24 2:23
D7-NMeFOSE	42.5	10-150		10/29/24 2:23
D9-NEtFOSE	34.7	10-150		10/29/24 2:23
13C3-HFPO-DA	78.6	25-160		10/29/24 2:23

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7 | Sampled: 10/10/2024 16:15

Sample ID: 24J1981-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.8		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7DUP | Sampled: 10/10/2024 16:20

Sample ID: 24J1981-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorohexanesulfonic acid (PFHxS)	0.28	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7DUP | Sampled: 10/10/2024 16:20

Sample ID: 24J1981-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 11:56	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.5	10-130		11/1/24 11:56
13C5-PFPeA	85.4	35-150		11/1/24 11:56
13C5-PFHxA	84.8	55-150		11/1/24 11:56
13C4-PFHpA	88.5	55-150		11/1/24 11:56
13C8-PFOA	88.3	60-140		11/1/24 11:56
13C9-PFNA	94.4	55-140		11/1/24 11:56
13C6-PFDA	102	50-140		11/1/24 11:56
13C7-PFUnA	93.2	30-140		11/1/24 11:56
13C2-PFDoA	101	10-150		11/1/24 11:56
13C2-PFTeDA	107	10-130		11/1/24 11:56
13C3-PFBS	95.4	55-150		11/1/24 11:56
13C3-PFHxS	87.2	55-150		11/1/24 11:56
13C8-PFOS	88.6	45-140		11/1/24 11:56
13C2-4:2FTS	96.4	60-200		11/1/24 11:56
13C2-6:2FTS	106	60-200		11/1/24 11:56
13C2-8:2FTS	105	50-200		11/1/24 11:56
13C8-PFOSA	98.0	30-130		11/1/24 11:56
D3-NMeFOSA	42.9	15-130		11/1/24 11:56
D5-NEtFOSA	29.5	10-130		11/1/24 11:56
D3-NMeFOSAA	102	45-200		11/1/24 11:56
D5-NEtFOSAA	108	10-200		11/1/24 11:56
D7-NMeFOSE	67.5	10-150		11/1/24 11:56
D9-NEtFOSE	54.3	10-150		11/1/24 11:56
13C3-HFPO-DA	87.4	25-160		11/1/24 11:56

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-6-7DUP | Sampled: 10/10/2024 16:20

Sample ID: 24J1981-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.6		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-3-5 | Sampled: 10/10/2024 17:30

Sample ID: 24J1981-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-3-5 | Sampled: 10/10/2024 17:30

Sample ID: 24J1981-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/30/24	11/1/24 12:12	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.1	10-130		11/1/24 12:12
13C5-PFPeA	88.5	35-150		11/1/24 12:12
13C5-PFHxA	87.4	55-150		11/1/24 12:12
13C4-PFHpA	90.7	55-150		11/1/24 12:12
13C8-PFOA	90.6	60-140		11/1/24 12:12
13C9-PFNA	97.3	55-140		11/1/24 12:12
13C6-PFDA	102	50-140		11/1/24 12:12
13C7-PFUnA	90.8	30-140		11/1/24 12:12
13C2-PFDoA	98.0	10-150		11/1/24 12:12
13C2-PFTeDA	97.3	10-130		11/1/24 12:12
13C3-PFBS	97.5	55-150		11/1/24 12:12
13C3-PFHxS	90.4	55-150		11/1/24 12:12
13C8-PFOS	92.0	45-140		11/1/24 12:12
13C2-4:2FTS	91.6	60-200		11/1/24 12:12
13C2-6:2FTS	93.7	60-200		11/1/24 12:12
13C2-8:2FTS	84.4	50-200		11/1/24 12:12
13C8-PFOSA	99.5	30-130		11/1/24 12:12
D3-NMeFOSA	37.2	15-130		11/1/24 12:12
D5-NEtFOSA	25.9	10-130		11/1/24 12:12
D3-NMeFOSAA	100	45-200		11/1/24 12:12
D5-NEtFOSAA	112	10-200		11/1/24 12:12
D7-NMeFOSE	73.5	10-150		11/1/24 12:12
D9-NEtFOSE	79.0	10-150		11/1/24 12:12
13C3-HFPO-DA	89.9	25-160		11/1/24 12:12

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: SB-3-5 | Sampled: 10/10/2024 17:30

Sample ID: 24J1981-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.8		% Wt	1		SM 2540G	10/17/24	10/17/24 12:53	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7 | Sampled: 10/10/2024 14:30

Sample ID: 24J1981-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoropentanoic acid (PFPeA)	2.6	1.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorohexanoic acid (PFHxA)	1.9	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorooctanoic acid (PFOA)	2.4	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorobutanesulfonic acid (PFBS)	1.2	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorohexanesulfonic acid (PFHxS)	6.0	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorooctanesulfonic acid (PFOS)	1.2	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7 | Sampled: 10/10/2024 14:30

Sample ID: 24J1981-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:18	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	72.7	10-130		10/27/24 23:18
13C5-PFPeA	74.8	35-150		10/27/24 23:18
13C5-PFHxA	72.6	55-150		10/27/24 23:18
13C4-PFHpA	76.5	55-150		10/27/24 23:18
13C8-PFOA	68.9	60-140		10/27/24 23:18
13C9-PFNA	77.5	55-140		10/27/24 23:18
13C6-PFDA	80.3	50-140		10/27/24 23:18
13C7-PFUnA	70.5	30-140		10/27/24 23:18
13C2-PFDoA	70.9	10-150		10/27/24 23:18
13C2-PFTeDA	65.2	10-130		10/27/24 23:18
13C3-PFBS	80.3	55-150		10/27/24 23:18
13C3-PFHxS	74.8	55-150		10/27/24 23:18
13C8-PFOS	78.8	45-140		10/27/24 23:18
13C2-4:2FTS	74.6	60-200		10/27/24 23:18
13C2-6:2FTS	74.1	60-200		10/27/24 23:18
13C2-8:2FTS	59.3	50-200		10/27/24 23:18
13C8-PFOSA	78.8	30-130		10/27/24 23:18
D3-NMeFOSA	56.2	15-130		10/27/24 23:18
D5-NEtFOSA	60.9	10-130		10/27/24 23:18
D3-NMeFOSAA	83.3	45-200		10/27/24 23:18
D5-NEtFOSAA	83.2	10-200		10/27/24 23:18
D7-NMeFOSE	68.3	10-150		10/27/24 23:18
D9-NEtFOSE	65.9	10-150		10/27/24 23:18
13C3-HFPO-DA	72.4	25-160		10/27/24 23:18

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7 | Sampled: 10/10/2024 14:30

Sample ID: 24J1981-07

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	28	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7DUP | Sampled: 10/10/2024 14:35

Sample ID: 24J1981-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoropentanoic acid (PFPeA)	2.6	2.0	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorohexanoic acid (PFHxA)	1.8	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorooctanoic acid (PFOA)	2.1	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorobutanesulfonic acid (PFBS)	1.0	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorohexanesulfonic acid (PFHxS)	6.0	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorooctanesulfonic acid (PFOS)	1.1	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7DUP | Sampled: 10/10/2024 14:35

Sample ID: 24J1981-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/27/24 23:33	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	71.0	10-130		10/27/24 23:33
13C5-PFPeA	74.3	35-150		10/27/24 23:33
13C5-PFHxA	71.2	55-150		10/27/24 23:33
13C4-PFHpA	74.6	55-150		10/27/24 23:33
13C8-PFOA	68.5	60-140		10/27/24 23:33
13C9-PFNA	74.1	55-140		10/27/24 23:33
13C6-PFDA	71.1	50-140		10/27/24 23:33
13C7-PFUnA	59.8	30-140		10/27/24 23:33
13C2-PFDoA	58.5	10-150		10/27/24 23:33
13C2-PFTeDA	59.7	10-130		10/27/24 23:33
13C3-PFBS	79.7	55-150		10/27/24 23:33
13C3-PFHxS	73.1	55-150		10/27/24 23:33
13C8-PFOS	76.0	45-140		10/27/24 23:33
13C2-4:2FTS	71.9	60-200		10/27/24 23:33
13C2-6:2FTS	70.1	60-200		10/27/24 23:33
13C2-8:2FTS	61.7	50-200		10/27/24 23:33
13C8-PFOSA	73.4	30-130		10/27/24 23:33
D3-NMeFOSA	57.0	15-130		10/27/24 23:33
D5-NEtFOSA	60.8	10-130		10/27/24 23:33
D3-NMeFOSAA	73.0	45-200		10/27/24 23:33
D5-NEtFOSAA	70.9	10-200		10/27/24 23:33
D7-NMeFOSE	60.6	10-150		10/27/24 23:33
D9-NEtFOSE	58.2	10-150		10/27/24 23:33
13C3-HFPO-DA	68.6	25-160		10/27/24 23:33

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-7DUP | Sampled: 10/10/2024 14:35

Sample ID: 24J1981-08

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6 | Sampled: 10/10/2024 17:00

Sample ID: 24J1981-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	7.4	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoropentanoic acid (PFPeA)	14	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorohexanoic acid (PFHxA)	31	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoroheptanoic acid (PFHpA)	6.6	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorooctanoic acid (PFOA)	20	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorononanoic acid (PFNA)	14	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorobutanesulfonic acid (PFBS)	30	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoropentanesulfonic acid (PFPeS)	38	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorohexanesulfonic acid (PFHxS)	370	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoroheptanesulfonic acid (PFHpS)	33	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorooctanesulfonic acid (PFOS)	1500	9.7	ng/L	10	D	Draft Method 1633	10/22/24	10/28/24 14:01	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6 | Sampled: 10/10/2024 17:00

Sample ID: 24J1981-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:21	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	55.6	10-130		10/28/24 0:21
13C5-PFPeA	68.0	35-150		10/28/24 0:21
13C5-PFHxA	66.3	55-150		10/28/24 0:21
13C4-PFHpA	70.0	55-150		10/28/24 0:21
13C8-PFOA	62.8	60-140		10/28/24 0:21
13C9-PFNA	69.8	55-140		10/28/24 0:21
13C6-PFDA	71.8	50-140		10/28/24 0:21
13C7-PFUnA	66.5	30-140		10/28/24 0:21
13C2-PFDoA	66.5	10-150		10/28/24 0:21
13C2-PFTeDA	68.7	10-130		10/28/24 0:21
13C3-PFBS	80.2	55-150		10/28/24 0:21
13C3-PFHxS	67.2	55-150		10/28/24 0:21
13C8-PFOS	65.9	45-140		10/28/24 0:21
13C8-PFOS	77.5	45-140		10/28/24 14:01
13C2-4:2FTS	76.1	60-200		10/28/24 0:21
13C2-6:2FTS	77.4	60-200		10/28/24 0:21
13C2-8:2FTS	65.0	50-200		10/28/24 0:21
13C8-PFOSA	97.4	30-130		10/28/24 0:21
D3-NMeFOSA	78.2	15-130		10/28/24 0:21
D5-NEtFOSA	86.7	10-130		10/28/24 0:21
D3-NMeFOSAA	89.4	45-200		10/28/24 0:21
D5-NEtFOSAA	75.7	10-200		10/28/24 0:21
D7-NMeFOSE	85.9	10-150		10/28/24 0:21
D9-NEtFOSE	79.5	10-150		10/28/24 0:21
13C3-HFPO-DA	64.1	25-160		10/28/24 0:21

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6 | Sampled: 10/10/2024 17:00

Sample ID: 24J1981-09

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	30	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6DUP | Sampled: 10/10/2024 17:05

Sample ID: 24J1981-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	7.8	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoropentanoic acid (PFPeA)	14	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorohexanoic acid (PFHxA)	30	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoroheptanoic acid (PFHpA)	6.5	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorooctanoic acid (PFOA)	18	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorononanoic acid (PFNA)	13	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorobutanesulfonic acid (PFBS)	28	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoropentanesulfonic acid (PFPeS)	40	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorohexanesulfonic acid (PFHxS)	370	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoroheptanesulfonic acid (PFHpS)	29	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorooctanesulfonic acid (PFOS)	1500	9.9	ng/L	10	D	Draft Method 1633	10/22/24	10/28/24 14:17	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6DUP | Sampled: 10/10/2024 17:05

Sample ID: 24J1981-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:37	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	60.8	10-130		10/28/24 0:37
13C5-PFPeA	77.7	35-150		10/28/24 0:37
13C5-PFHxA	74.4	55-150		10/28/24 0:37
13C4-PFHpA	79.6	55-150		10/28/24 0:37
13C8-PFOA	75.1	60-140		10/28/24 0:37
13C9-PFNA	83.3	55-140		10/28/24 0:37
13C6-PFDA	78.2	50-140		10/28/24 0:37
13C7-PFUnA	69.4	30-140		10/28/24 0:37
13C2-PFDoA	69.8	10-150		10/28/24 0:37
13C2-PFTeDA	72.3	10-130		10/28/24 0:37
13C3-PFBS	96.1	55-150		10/28/24 0:37
13C3-PFHxS	75.4	55-150		10/28/24 0:37
13C8-PFOS	81.1	45-140		10/28/24 0:37
13C8-PFOS	80.0	45-140		10/28/24 14:17
13C2-4:2FTS	88.9	60-200		10/28/24 0:37
13C2-6:2FTS	84.6	60-200		10/28/24 0:37
13C2-8:2FTS	75.7	50-200		10/28/24 0:37
13C8-PFOSA	114	30-130		10/28/24 0:37
D3-NMeFOSA	91.7	15-130		10/28/24 0:37
D5-NEtFOSA	102	10-130		10/28/24 0:37
D3-NMeFOSAA	113	45-200		10/28/24 0:37
D5-NEtFOSAA	87.8	10-200		10/28/24 0:37
D7-NMeFOSE	101	10-150		10/28/24 0:37
D9-NEtFOSE	96.2	10-150		10/28/24 0:37
13C3-HFPO-DA	76.9	25-160		10/28/24 0:37

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J1981

Date Received: 10/11/2024

Field Sample #: GWG-6DUP | Sampled: 10/10/2024 17:05

Sample ID: 24J1981-10

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1981-01 [SB-7-1]	B389767	6.03	5.00	10/21/24
24J1981-02 [SB-7-18]	B389767	5.26	5.00	10/21/24
24J1981-03 [SB-6-1]	B389767	5.56	5.00	10/21/24
24J1981-04 [SB-6-7]	B389767	6.05	5.00	10/21/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J1981-05RE1 [SB-6-7DUP]	B390329	5.91	5.00	10/30/24
24J1981-06RE1 [SB-3-5]	B390329	6.14	5.00	10/30/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J1981-07 [GWG-7]	B389300	50.0	10/15/24
24J1981-08 [GWG-7DUP]	B389300	50.0	10/15/24
24J1981-09 [GWG-6]	B389300	50.0	10/15/24
24J1981-10 [GWG-6DUP]	B389300	50.0	10/15/24

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 10/15/2024 per NO PREP in Batch B389300**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J1981-07 [GWG-7]	B390041	517	5.00	10/22/24
24J1981-08 [GWG-7DUP]	B390041	509	5.00	10/22/24
24J1981-09 [GWG-6]	B390041	516	5.00	10/22/24
24J1981-09RE1 [GWG-6]	B390041	516	5.00	10/22/24
24J1981-10 [GWG-6DUP]	B390041	503	5.00	10/22/24
24J1981-10RE1 [GWG-6DUP]	B390041	503	5.00	10/22/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J1981-01 [SB-7-1]	B389639	10/17/24
24J1981-02 [SB-7-18]	B389639	10/17/24
24J1981-03 [SB-6-1]	B389639	10/17/24
24J1981-04 [SB-6-7]	B389639	10/17/24
24J1981-05 [SB-6-7DUP]	B389639	10/17/24
24J1981-06 [SB-3-5]	B389639	10/17/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Blank (B389767-BLK1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet							
Surrogate: 13C4-PFBA	*11.6*		µg/kg wet	9.944		116	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
Blank (B389767-BLK1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Surrogate: 13C5-PFPeA	*5.53*		µg/kg wet	4.972		111	35-150			
Surrogate: 13C5-PFHxA	*2.64*		µg/kg wet	2.486		106	55-150			
Surrogate: 13C4-PFHpA	*2.62*		µg/kg wet	2.486		105	55-150			
Surrogate: 13C8-PFOA	*2.68*		µg/kg wet	2.486		108	60-140			
Surrogate: 13C9-PFNA	*1.47*		µg/kg wet	1.243		118	55-140			
Surrogate: 13C6-PFDA	*1.39*		µg/kg wet	1.243		112	50-140			
Surrogate: 13C7-PFUnA	*1.35*		µg/kg wet	1.243		109	30-140			
Surrogate: 13C2-PFDoA	*1.28*		µg/kg wet	1.243		103	10-150			
Surrogate: 13C2-PFTeDA	*1.23*		µg/kg wet	1.243		99.3	10-130			
Surrogate: 13C3-PFBS	*3.00*		µg/kg wet	2.486		121	55-150			
Surrogate: 13C3-PFHxS	*2.73*		µg/kg wet	2.486		110	55-150			
Surrogate: 13C8-PFOS	*2.85*		µg/kg wet	2.486		115	45-140			
Surrogate: 13C2-4:2FTS	*6.37*		µg/kg wet	4.972		128	60-200			
Surrogate: 13C2-6:2FTS	*6.16*		µg/kg wet	4.972		124	60-200			
Surrogate: 13C2-8:2FTS	*5.35*		µg/kg wet	4.972		108	50-200			
Surrogate: 13C8-PFOSA	*2.73*		µg/kg wet	2.486		110	30-130			
Surrogate: D3-NMeFOSA	*1.77*		µg/kg wet	2.486		71.1	15-130			
Surrogate: D5-NEtFOSA	*1.43*		µg/kg wet	2.486		57.5	10-130			
Surrogate: D3-NMeFOSAA	*5.84*		µg/kg wet	4.972		117	45-200			
Surrogate: D5-NEtFOSAA	*6.04*		µg/kg wet	4.972		122	10-200			
Surrogate: D7-NMeFOSE	*25.1*		µg/kg wet	24.86		101	10-150			
Surrogate: D9-NEtFOSE	*23.5*		µg/kg wet	24.86		94.7	10-150			
Surrogate: 13C3-HFPO-DA	*10.9*		µg/kg wet	9.944		110	25-160			
LCS (B389767-BS1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	9.40	0.78	µg/kg wet	9.342		101	58-148			
Perfluoropentanoic acid (PFPeA)	4.63	0.39	µg/kg wet	4.671		99.1	54-152			
Perfluorohexanoic acid (PFHxA)	2.42	0.19	µg/kg wet	2.336		104	55-152			
Perfluoroheptanoic acid (PFHpA)	2.26	0.19	µg/kg wet	2.336		96.9	54-154			
Perfluorooctanoic acid (PFOA)	2.28	0.19	µg/kg wet	2.336		97.5	52-161			
Perfluorononanoic acid (PFNA)	2.14	0.19	µg/kg wet	2.336		91.7	59-149			
Perfluorodecanoic acid (PFDA)	2.13	0.19	µg/kg wet	2.336		91.2	52-147			
Perfluoroundecanoic acid (PFUnA)	2.32	0.19	µg/kg wet	2.336		99.5	48-159			
Perfluorododecanoic acid (PFDoA)	2.43	0.19	µg/kg wet	2.336		104	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.40	0.19	µg/kg wet	2.336		103	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.39	0.19	µg/kg wet	2.336		102	47-161			
Perfluorobutanesulfonic acid (PFBS)	2.02	0.19	µg/kg wet	2.072		97.4	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.17	0.19	µg/kg wet	2.198		98.5	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.98	0.19	µg/kg wet	2.135		92.6	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.16	0.19	µg/kg wet	2.226		96.8	55-152			
Perfluorooctanesulfonic acid (PFOS)	1.97	0.19	µg/kg wet	2.167		90.9	58-149			
Perfluorononanesulfonic acid (PFNS)	2.08	0.19	µg/kg wet	2.247		92.8	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.17	0.19	µg/kg wet	2.254		96.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	2.00	0.19	µg/kg wet	2.265		88.3	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.56	0.78	µg/kg wet	8.758		109	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.71	0.78	µg/kg wet	8.875		109	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.4	0.78	µg/kg wet	8.968		116	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.37	0.19	µg/kg wet	2.336		101	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.11	0.19	µg/kg wet	2.336		90.4	63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
LCS (B389767-BS1)				Prepared: 10/21/24 Analyzed: 10/24/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.97	0.19	µg/kg wet	2.336		84.4	65-139			
N-MeFOSAA (NMeFOSAA)	2.46	0.19	µg/kg wet	2.336		105	58-144			
N-EtFOSAA (NEtFOSAA)	2.18	0.19	µg/kg wet	2.336		93.4	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	21.7	1.9	µg/kg wet	23.36		92.9	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	22.1	1.9	µg/kg wet	23.36		94.5	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.99	0.78	µg/kg wet	9.342		96.3	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.39	0.78	µg/kg wet	8.828		95.1	68-146			
9Cl-PF3ONS (F53B Minor)	7.88	0.78	µg/kg wet	8.735		90.2	56-156			
11Cl-PF3OUdS (F53B Major)	7.28	0.78	µg/kg wet	8.828		82.5	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	20.7	1.9	µg/kg wet	23.36		88.6	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	99.9	9.7	µg/kg wet	116.8		85.6	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	98.4	9.7	µg/kg wet	116.8		84.2	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.24	0.39	µg/kg wet	4.157		102	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.39	0.39	µg/kg wet	4.671		94.1	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.66	0.39	µg/kg wet	4.671		99.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.13	0.39	µg/kg wet	4.671		110	48-161			
Surrogate: 13C4-PFBA	*9.40*		µg/kg wet	9.731		96.6	10-130			
Surrogate: 13C5-PFPeA	*4.79*		µg/kg wet	4.866		98.5	35-150			
Surrogate: 13C5-PFHxA	*2.31*		µg/kg wet	2.433		94.9	55-150			
Surrogate: 13C4-PFHpA	*2.40*		µg/kg wet	2.433		98.5	55-150			
Surrogate: 13C8-PFOA	*2.37*		µg/kg wet	2.433		97.6	60-140			
Surrogate: 13C9-PFNA	*1.24*		µg/kg wet	1.216		102	55-140			
Surrogate: 13C6-PFDA	*1.29*		µg/kg wet	1.216		106	50-140			
Surrogate: 13C7-PFUnA	*1.20*		µg/kg wet	1.216		98.4	30-140			
Surrogate: 13C2-PFDoA	*1.16*		µg/kg wet	1.216		95.6	10-150			
Surrogate: 13C2-PFTeDA	*1.11*		µg/kg wet	1.216		90.9	10-130			
Surrogate: 13C3-PFBS	*2.55*		µg/kg wet	2.433		105	55-150			
Surrogate: 13C3-PFHxS	*2.37*		µg/kg wet	2.433		97.5	55-150			
Surrogate: 13C8-PFOS	*2.55*		µg/kg wet	2.433		105	45-140			
Surrogate: 13C2-4:2FTS	*4.97*		µg/kg wet	4.866		102	60-200			
Surrogate: 13C2-6:2FTS	*4.88*		µg/kg wet	4.866		100	60-200			
Surrogate: 13C2-8:2FTS	*4.38*		µg/kg wet	4.866		90.1	50-200			
Surrogate: 13C8-PFOSA	*2.31*		µg/kg wet	2.433		95.0	30-130			
Surrogate: D3-NMeFOSA	*1.56*		µg/kg wet	2.433		64.0	15-130			
Surrogate: D5-NEtFOSA	*1.52*		µg/kg wet	2.433		62.5	10-130			
Surrogate: D3-NMeFOSAA	*5.39*		µg/kg wet	4.866		111	45-200			
Surrogate: D5-NEtFOSAA	*5.15*		µg/kg wet	4.866		106	10-200			
Surrogate: D7-NMeFOSE	*22.0*		µg/kg wet	24.33		90.5	10-150			
Surrogate: D9-NEtFOSE	*22.7*		µg/kg wet	24.33		93.1	10-150			
Surrogate: 13C3-HFPO-DA	*9.35*		µg/kg wet	9.731		96.1	25-160			
MRL Check (B389767-MRL1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorobutanoic acid (PFBA)	0.797	0.78	µg/kg wet	0.7849		101	44-157			
Perfluoropentanoic acid (PFPeA)	0.416	0.39	µg/kg wet	0.3925		106	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
MRL Check (B389767-MRL1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Perfluorohexanoic acid (PFHxA)	0.211	0.20	µg/kg wet	0.1962		107	62-149			
Perfluoroheptanoic acid (PFHpA)	0.202	0.20	µg/kg wet	0.1962		103	56-150			
Perfluorooctanoic acid (PFOA)	0.220	0.20	µg/kg wet	0.1962		112	57-161			
Perfluorononanoic acid (PFNA)	0.194	0.20	µg/kg wet	0.1962		98.7	53-157			
Perfluorodecanoic acid (PFDA)	0.198	0.20	µg/kg wet	0.1962		101	43-158			
Perfluoroundecanoic acid (PFUnA)	0.200	0.20	µg/kg wet	0.1962		102	50-155			
Perfluorododecanoic acid (PFDoA)	0.215	0.20	µg/kg wet	0.1962		110	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.204	0.20	µg/kg wet	0.1962		104	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.206	0.20	µg/kg wet	0.1962		105	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.178	0.20	µg/kg wet	0.1741		102	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.205	0.20	µg/kg wet	0.1847		111	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.197	0.20	µg/kg wet	0.1794		110	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.218	0.20	µg/kg wet	0.1870		116	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.200	0.20	µg/kg wet	0.1821		110	43-162			
Perfluorononanesulfonic acid (PFNS)	0.194	0.20	µg/kg wet	0.1888		103	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.201	0.20	µg/kg wet	0.1894		106	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.174	0.20	µg/kg wet	0.1903		91.5	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.875	0.78	µg/kg wet	0.7359		119	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.962	0.78	µg/kg wet	0.7457		129	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.885	0.78	µg/kg wet	0.7535		117	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.205	0.20	µg/kg wet	0.1962		105	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.179	0.20	µg/kg wet	0.1962		91.1	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.174	0.20	µg/kg wet	0.1962		88.6	49-156			
N-MeFOSAA (NMeFOSAA)	0.188	0.20	µg/kg wet	0.1962		95.6	32-160			
N-EtFOSAA (NEtFOSAA)	0.215	0.20	µg/kg wet	0.1962		109	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	2.05	2.0	µg/kg wet	1.962		105	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	2.17	2.0	µg/kg wet	1.962		111	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.773	0.78	µg/kg wet	0.7849		98.5	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.725	0.78	µg/kg wet	0.7418		97.7	61-148			
9Cl-PF3ONS (F53B Minor)	0.673	0.78	µg/kg wet	0.7339		91.7	44-167			
11Cl-PF3OUdS (F53B Major)	0.593	0.78	µg/kg wet	0.7418		80.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.68	2.0	µg/kg wet	1.962		85.8	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	7.80	9.8	µg/kg wet	9.812		79.5	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	7.33	9.8	µg/kg wet	9.812		74.7	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.330	0.39	µg/kg wet	0.3493		94.4	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.355	0.39	µg/kg wet	0.3925		90.4	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.366	0.39	µg/kg wet	0.3925		93.2	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.430	0.39	µg/kg wet	0.3925		110	47-160			
Surrogate: 13C4-PFBA	*9.30*		µg/kg wet	9.812		94.8	10-130			
Surrogate: 13C5-PFPeA	*4.50*		µg/kg wet	4.906		91.7	35-150			
Surrogate: 13C5-PFHxA	*2.22*		µg/kg wet	2.453		90.4	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389767 - Draft Method 1633										
MRL Check (B389767-MRL1)				Prepared: 10/21/24 Analyzed: 10/24/24						
Surrogate: 13C4-PFHpA	*2.16*		µg/kg wet	2.453		88.1	55-150			
Surrogate: 13C8-PFOA	*2.24*		µg/kg wet	2.453		91.4	60-140			
Surrogate: 13C9-PFNA	*1.21*		µg/kg wet	1.226		98.6	55-140			
Surrogate: 13C6-PFDA	*1.22*		µg/kg wet	1.226		99.4	50-140			
Surrogate: 13C7-PFUnA	*1.11*		µg/kg wet	1.226		90.8	30-140			
Surrogate: 13C2-PFDoA	*1.09*		µg/kg wet	1.226		88.5	10-150			
Surrogate: 13C2-PFTeDA	*1.08*		µg/kg wet	1.226		87.8	10-130			
Surrogate: 13C3-PFBS	*2.49*		µg/kg wet	2.453		102	55-150			
Surrogate: 13C3-PFHxS	*2.33*		µg/kg wet	2.453		94.8	55-150			
Surrogate: 13C8-PFOS	*2.36*		µg/kg wet	2.453		96.2	45-140			
Surrogate: 13C2-4:2FTS	*5.09*		µg/kg wet	4.906		104	60-200			
Surrogate: 13C2-6:2FTS	*4.64*		µg/kg wet	4.906		94.6	60-200			
Surrogate: 13C2-8:2FTS	*4.59*		µg/kg wet	4.906		93.7	50-200			
Surrogate: 13C8-PFOSA	*2.24*		µg/kg wet	2.453		91.2	30-130			
Surrogate: D3-NMeFOSA	*1.66*		µg/kg wet	2.453		67.8	15-130			
Surrogate: D5-NEtFOSA	*1.55*		µg/kg wet	2.453		63.4	10-130			
Surrogate: D3-NMeFOSAA	*5.14*		µg/kg wet	4.906		105	45-200			
Surrogate: D5-NEtFOSAA	*5.05*		µg/kg wet	4.906		103	10-200			
Surrogate: D7-NMeFOSE	*20.7*		µg/kg wet	24.53		84.2	10-150			
Surrogate: D9-NEtFOSE	*19.9*		µg/kg wet	24.53		81.3	10-150			
Surrogate: 13C3-HFPO-DA	*8.81*		µg/kg wet	9.812		89.7	25-160			
Batch B390041 - Draft Method 1633										
Blank (B390041-BLK1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.98	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.98	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.98	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.98	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
Blank (B390041-BLK1)				Prepared: 10/22/24 Analyzed: 10/27/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*72.5*		ng/L	97.87		74.1	10-130			
Surrogate: 13C5-PFPeA	*37.8*		ng/L	48.93		77.3	35-150			
Surrogate: 13C5-PFHxA	*17.9*		ng/L	24.47		73.0	55-150			
Surrogate: 13C4-PFHpA	*19.3*		ng/L	24.47		78.9	55-150			
Surrogate: 13C8-PFOA	*18.3*		ng/L	24.47		74.7	60-140			
Surrogate: 13C9-PFNA	*9.78*		ng/L	12.23		79.9	55-140			
Surrogate: 13C6-PFDA	*10.6*		ng/L	12.23		86.5	50-140			
Surrogate: 13C7-PFUnA	*9.19*		ng/L	12.23		75.1	30-140			
Surrogate: 13C2-PFDoA	*9.94*		ng/L	12.23		81.3	10-150			
Surrogate: 13C2-PFTeDA	*9.83*		ng/L	12.23		80.4	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	24.47		82.4	55-150			
Surrogate: 13C3-PFHxS	*18.5*		ng/L	24.47		75.4	55-150			
Surrogate: 13C8-PFOS	*19.3*		ng/L	24.47		78.8	45-140			
Surrogate: 13C2-4:2FTS	*37.1*		ng/L	48.93		75.9	60-200			
Surrogate: 13C2-6:2FTS	*37.0*		ng/L	48.93		75.5	60-200			
Surrogate: 13C2-8:2FTS	*34.4*		ng/L	48.93		70.4	50-200			
Surrogate: 13C8-PFOSA	*19.0*		ng/L	24.47		77.8	30-130			
Surrogate: D3-NMeFOSA	*15.9*		ng/L	24.47		65.1	15-130			
Surrogate: D5-NEtFOSA	*17.7*		ng/L	24.47		72.2	10-130			
Surrogate: D3-NMeFOSAA	*41.4*		ng/L	48.93		84.6	45-200			
Surrogate: D5-NEtFOSAA	*41.4*		ng/L	48.93		84.7	10-200			
Surrogate: D7-NMeFOSE	*193*		ng/L	244.7		78.8	10-150			
Surrogate: D9-NEtFOSE	*180*		ng/L	244.7		73.6	10-150			
Surrogate: 13C3-HFPO-DA	*72.5*		ng/L	97.87		74.1	25-160			
LCS (B390041-BS1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	115	3.9	ng/L	94.02		122	58-148			
Perfluoropentanoic acid (PFPeA)	57.7	2.0	ng/L	47.01		123	54-152			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
LCS (B390041-BS1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorohexanoic acid (PFHxA)	29.0	0.98	ng/L	23.50		124	55-152			
Perfluoroheptanoic acid (PFHpA)	27.0	0.98	ng/L	23.50		115	54-154			
Perfluorooctanoic acid (PFOA)	29.5	0.98	ng/L	23.50		126	52-161			
Perfluorononanoic acid (PFNA)	25.9	0.98	ng/L	23.50		110	59-149			
Perfluorodecanoic acid (PFDA)	26.5	0.98	ng/L	23.50		113	52-147			
Perfluoroundecanoic acid (PFUnA)	27.1	0.98	ng/L	23.50		115	48-159			
Perfluorododecanoic acid (PFDoA)	29.1	0.98	ng/L	23.50		124	64-142			
Perfluorotridecanoic acid (PFTrDA)	29.7	0.98	ng/L	23.50		126	49-148			
Perfluorotetradecanoic acid (PFTeDA)	28.7	0.98	ng/L	23.50		122	47-161			
Perfluorobutanesulfonic acid (PFBS)	25.2	0.98	ng/L	20.85		121	62-144			
Perfluoropentanesulfonic acid (PFPeS)	28.5	0.98	ng/L	22.12		129	59-151			
Perfluorohexanesulfonic acid (PFHxS)	24.3	0.98	ng/L	21.48		113	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	26.8	0.98	ng/L	22.40		119	55-152			
Perfluorooctanesulfonic acid (PFOS)	25.0	0.98	ng/L	21.81		115	58-149			
Perfluorononanesulfonic acid (PFNS)	26.4	0.98	ng/L	22.61		117	52-148			
Perfluorodecanesulfonic acid (PFDS)	26.9	0.98	ng/L	22.68		119	51-147			
Perfluorododecanesulfonic acid (PFDoS)	24.3	0.98	ng/L	22.80		107	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	122	3.9	ng/L	88.14		138	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	125	3.9	ng/L	89.32		140	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	122	3.9	ng/L	90.26		135	63-152			
Perfluorooctanesulfonamide (PFOSA)	29.6	0.98	ng/L	23.50		126	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	26.0	0.98	ng/L	23.50		111	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.5	0.98	ng/L	23.50		108	65-139			
N-MeFOSAA (NMeFOSAA)	27.6	0.98	ng/L	23.50		117	58-144			
N-EtFOSAA (NEtFOSAA)	25.3	0.98	ng/L	23.50		108	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	254	9.8	ng/L	235.0		108	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	263	9.8	ng/L	235.0		112	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	104	3.9	ng/L	94.02		111	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	102	3.9	ng/L	88.85		115	68-146			
9Cl-PF3ONS (F53B Minor)	85.8	3.9	ng/L	87.91		97.6	56-156			
11Cl-PF3OUdS (F53B Major)	76.3	3.9	ng/L	88.85		85.9	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	277	9.8	ng/L	235.0		118	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1330	49	ng/L	1175		113	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1250	49	ng/L	1175		107	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	46.7	2.0	ng/L	41.84		112	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	51.8	2.0	ng/L	47.01		110	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	50.9	2.0	ng/L	47.01		108	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	56.9	2.0	ng/L	47.01		121	48-161			
Surrogate: 13C4-PFBA	*72.0*		ng/L	97.94		73.6	10-130			
Surrogate: 13C5-PFPeA	*37.8*		ng/L	48.97		77.3	35-150			
Surrogate: 13C5-PFHxA	*18.0*		ng/L	24.48		73.4	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
LCS (B390041-BS1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Surrogate: 13C4-PFHpA	*19.1*		ng/L	24.48		78.2	55-150			
Surrogate: 13C8-PFOA	*17.7*		ng/L	24.48		72.3	60-140			
Surrogate: 13C9-PFNA	*9.60*		ng/L	12.24		78.4	55-140			
Surrogate: 13C6-PFDA	*9.52*		ng/L	12.24		77.7	50-140			
Surrogate: 13C7-PFUnA	*8.77*		ng/L	12.24		71.6	30-140			
Surrogate: 13C2-PFDoA	*9.04*		ng/L	12.24		73.9	10-150			
Surrogate: 13C2-PFTeDA	*8.91*		ng/L	12.24		72.8	10-130			
Surrogate: 13C3-PFBS	*20.3*		ng/L	24.48		83.1	55-150			
Surrogate: 13C3-PFHxS	*19.1*		ng/L	24.48		77.9	55-150			
Surrogate: 13C8-PFOS	*19.7*		ng/L	24.48		80.5	45-140			
Surrogate: 13C2-4:2FTS	*34.9*		ng/L	48.97		71.3	60-200			
Surrogate: 13C2-6:2FTS	*34.5*		ng/L	48.97		70.4	60-200			
Surrogate: 13C2-8:2FTS	*31.6*		ng/L	48.97		64.6	50-200			
Surrogate: 13C8-PFOSA	*18.8*		ng/L	24.48		76.8	30-130			
Surrogate: D3-NMeFOSA	*15.8*		ng/L	24.48		64.6	15-130			
Surrogate: D5-NEtFOSA	*16.9*		ng/L	24.48		69.1	10-130			
Surrogate: D3-NMeFOSAA	*41.6*		ng/L	48.97		85.0	45-200			
Surrogate: D5-NEtFOSAA	*41.5*		ng/L	48.97		84.7	10-200			
Surrogate: D7-NMeFOSE	*181*		ng/L	244.8		74.1	10-150			
Surrogate: D9-NEtFOSE	*170*		ng/L	244.8		69.5	10-150			
Surrogate: 13C3-HFPO-DA	*73.0*		ng/L	97.94		74.5	25-160			
MRL Check (B390041-MRL1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	9.99	3.9	ng/L	7.860		127	44-157			
Perfluoropentanoic acid (PFPeA)	4.91	2.0	ng/L	3.930		125	57-148			
Perfluorohexanoic acid (PFHxA)	2.74	0.98	ng/L	1.965		139	62-149			
Perfluoroheptanoic acid (PFHpA)	2.42	0.98	ng/L	1.965		123	56-150			
Perfluorooctanoic acid (PFOA)	2.59	0.98	ng/L	1.965		132	57-161			
Perfluorononanoic acid (PFNA)	2.27	0.98	ng/L	1.965		116	53-157			
Perfluorodecanoic acid (PFDA)	2.23	0.98	ng/L	1.965		114	43-158			
Perfluoroundecanoic acid (PFUnA)	2.39	0.98	ng/L	1.965		122	50-155			
Perfluorododecanoic acid (PFDoA)	2.58	0.98	ng/L	1.965		131	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.63	0.98	ng/L	1.965		134	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.47	0.98	ng/L	1.965		126	52-156			
Perfluorobutanesulfonic acid (PFBS)	2.08	0.98	ng/L	1.743		120	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.62	0.98	ng/L	1.849		142	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.46	0.98	ng/L	1.796		137	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.60	0.98	ng/L	1.873		139	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.54	0.98	ng/L	1.824		139	43-162			
Perfluorononanesulfonic acid (PFNS)	2.45	0.98	ng/L	1.890		130	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.47	0.98	ng/L	1.896		130	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.37	0.98	ng/L	1.906		124	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.5	3.9	ng/L	7.369		142	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.9	3.9	ng/L	7.467		146	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.8	3.9	ng/L	7.546		143	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.52	0.98	ng/L	1.965		128	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.75	0.98	ng/L	1.965		140	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.34	0.98	ng/L	1.965		119	49-156			
N-MeFOSAA (NMeFOSAA)	2.21	0.98	ng/L	1.965		112	32-160			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
MRL Check (B390041-MRL1)				Prepared: 10/22/24 Analyzed: 10/27/24						
N-EtFOSAA (NEtFOSAA)	2.27	0.98	ng/L	1.965		116	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	25.1	9.8	ng/L	19.65		128	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	24.9	9.8	ng/L	19.65		127	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.22	3.9	ng/L	7.860		117	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.16	3.9	ng/L	7.428		110	61-148			
9Cl-PF3ONS (F53B Minor)	7.04	3.9	ng/L	7.349		95.7	44-167			
11Cl-PF3OUdS (F53B Major)	6.03	3.9	ng/L	7.428		81.2	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	23.1	9.8	ng/L	19.65		118	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	112	49	ng/L	98.25		114	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	106	49	ng/L	98.25		108	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.26	2.0	ng/L	3.498		122	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.46	2.0	ng/L	3.930		113	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.43	2.0	ng/L	3.930		113	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.03	2.0	ng/L	3.930		128	47-160			
Surrogate: 13C4-PFBA	*71.4*		ng/L	98.25		72.7	10-130			
Surrogate: 13C5-PFPeA	*37.5*		ng/L	49.13		76.4	35-150			
Surrogate: 13C5-PFHxA	*17.1*		ng/L	24.56		69.5	55-150			
Surrogate: 13C4-PFHpA	*18.6*		ng/L	24.56		75.9	55-150			
Surrogate: 13C8-PFOA	*17.7*		ng/L	24.56		71.9	60-140			
Surrogate: 13C9-PFNA	*9.68*		ng/L	12.28		78.8	55-140			
Surrogate: 13C6-PFDA	*9.89*		ng/L	12.28		80.6	50-140			
Surrogate: 13C7-PFUnA	*8.79*		ng/L	12.28		71.6	30-140			
Surrogate: 13C2-PFDoA	*9.12*		ng/L	12.28		74.3	10-150			
Surrogate: 13C2-PFTeDA	*9.22*		ng/L	12.28		75.1	10-130			
Surrogate: 13C3-PFBS	*20.0*		ng/L	24.56		81.6	55-150			
Surrogate: 13C3-PFHxS	*18.2*		ng/L	24.56		74.2	55-150			
Surrogate: 13C8-PFOS	*19.2*		ng/L	24.56		78.3	45-140			
Surrogate: 13C2-4:2FTS	*36.7*		ng/L	49.13		74.7	60-200			
Surrogate: 13C2-6:2FTS	*36.5*		ng/L	49.13		74.4	60-200			
Surrogate: 13C2-8:2FTS	*33.1*		ng/L	49.13		67.4	50-200			
Surrogate: 13C8-PFOSA	*19.3*		ng/L	24.56		78.6	30-130			
Surrogate: D3-NMeFOSA	*15.8*		ng/L	24.56		64.1	15-130			
Surrogate: D5-NEtFOSA	*17.9*		ng/L	24.56		72.7	10-130			
Surrogate: D3-NMeFOSAA	*42.9*		ng/L	49.13		87.4	45-200			
Surrogate: D5-NEtFOSAA	*41.3*		ng/L	49.13		84.1	10-200			
Surrogate: D7-NMeFOSE	*188*		ng/L	245.6		76.5	10-150			
Surrogate: D9-NEtFOSE	*176*		ng/L	245.6		71.7	10-150			
Surrogate: 13C3-HFPO-DA	*74.7*		ng/L	98.25		76.0	25-160			
Batch B390329 - Draft Method 1633										
Blank (B390329-BLK1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
Blank (B390329-BLK1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	*8.74*		µg/kg wet	9.856		88.7	10-130			
Surrogate: 13C5-PFPeA	*4.70*		µg/kg wet	4.928		95.4	35-150			
Surrogate: 13C5-PFHxA	*2.34*		µg/kg wet	2.464		94.8	55-150			
Surrogate: 13C4-PFHpA	*2.35*		µg/kg wet	2.464		95.6	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
Blank (B390329-BLK1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Surrogate: 13C8-PFOA	*2.36*		µg/kg wet	2.464		95.7	60-140			
Surrogate: 13C9-PFNA	*1.19*		µg/kg wet	1.232		96.8	55-140			
Surrogate: 13C6-PFDA	*1.27*		µg/kg wet	1.232		103	50-140			
Surrogate: 13C7-PFUnA	*1.15*		µg/kg wet	1.232		93.0	30-140			
Surrogate: 13C2-PFDoA	*1.22*		µg/kg wet	1.232		99.2	10-150			
Surrogate: 13C2-PFTeDA	*1.08*		µg/kg wet	1.232		87.4	10-130			
Surrogate: 13C3-PFBS	*2.77*		µg/kg wet	2.464		112	55-150			
Surrogate: 13C3-PFHxS	*2.45*		µg/kg wet	2.464		99.4	55-150			
Surrogate: 13C8-PFOS	*2.46*		µg/kg wet	2.464		100	45-140			
Surrogate: 13C2-4:2FTS	*5.23*		µg/kg wet	4.928		106	60-200			
Surrogate: 13C2-6:2FTS	*4.77*		µg/kg wet	4.928		96.8	60-200			
Surrogate: 13C2-8:2FTS	*4.15*		µg/kg wet	4.928		84.2	50-200			
Surrogate: 13C8-PFOSA	*2.71*		µg/kg wet	2.464		110	30-130			
Surrogate: D3-NMeFOSA	*1.61*		µg/kg wet	2.464		65.5	15-130			
Surrogate: D5-NEtFOSA	*1.38*		µg/kg wet	2.464		56.0	10-130			
Surrogate: D3-NMeFOSAA	*5.42*		µg/kg wet	4.928		110	45-200			
Surrogate: D5-NEtFOSAA	*5.52*		µg/kg wet	4.928		112	10-200			
Surrogate: D7-NMeFOSE	*19.1*		µg/kg wet	24.64		77.4	10-150			
Surrogate: D9-NEtFOSE	*15.5*		µg/kg wet	24.64		63.1	10-150			
Surrogate: 13C3-HFPO-DA	*8.89*		µg/kg wet	9.856		90.2	25-160			
LCS (B390329-BS1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	8.52	0.80	µg/kg wet	9.560		89.1	58-148			
Perfluoropentanoic acid (PFPeA)	4.26	0.40	µg/kg wet	4.780		89.1	54-152			
Perfluorohexanoic acid (PFHxA)	2.22	0.20	µg/kg wet	2.390		92.8	55-152			
Perfluoroheptanoic acid (PFHpA)	2.02	0.20	µg/kg wet	2.390		84.7	54-154			
Perfluorooctanoic acid (PFOA)	2.17	0.20	µg/kg wet	2.390		90.9	52-161			
Perfluorononanoic acid (PFNA)	1.82	0.20	µg/kg wet	2.390		76.1	59-149			
Perfluorodecanoic acid (PFDA)	1.98	0.20	µg/kg wet	2.390		83.0	52-147			
Perfluoroundecanoic acid (PFUnA)	2.17	0.20	µg/kg wet	2.390		90.7	48-159			
Perfluorododecanoic acid (PFDoA)	2.25	0.20	µg/kg wet	2.390		94.1	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.22	0.20	µg/kg wet	2.390		92.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.10	0.20	µg/kg wet	2.390		87.9	47-161			
Perfluorobutanesulfonic acid (PFBS)	1.81	0.20	µg/kg wet	2.120		85.5	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.13	0.20	µg/kg wet	2.249		94.8	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.87	0.20	µg/kg wet	2.184		85.5	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.06	0.20	µg/kg wet	2.278		90.6	55-152			
Perfluorooctanesulfonic acid (PFOS)	1.86	0.20	µg/kg wet	2.218		83.7	58-149			
Perfluorononanesulfonic acid (PFNS)	1.99	0.20	µg/kg wet	2.299		86.7	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.27	0.20	µg/kg wet	2.306		98.3	51-147			
Perfluorododecanesulfonic acid (PFDoS)	1.76	0.20	µg/kg wet	2.318		76.0	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.80	0.80	µg/kg wet	8.962		98.2	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.54	0.80	µg/kg wet	9.082		94.0	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.87	0.80	µg/kg wet	9.177		96.6	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.15	0.20	µg/kg wet	2.390		90.0	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.96	0.20	µg/kg wet	2.390		82.2	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.80	0.20	µg/kg wet	2.390		75.5	65-139			
N-MeFOSAA (NMeFOSAA)	2.05	0.20	µg/kg wet	2.390		85.7	58-144			
N-EtFOSAA (NEtFOSAA)	1.86	0.20	µg/kg wet	2.390		78.0	59-146			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
LCS (B390329-BS1)				Prepared: 10/30/24 Analyzed: 11/01/24						
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	19.0	2.0	µg/kg wet	23.90		79.5	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	19.3	2.0	µg/kg wet	23.90		80.9	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.25	0.80	µg/kg wet	9.560		96.8	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.70	0.80	µg/kg wet	9.034		96.3	68-146			
9Cl-PF3ONS (F53B Minor)	7.26	0.80	µg/kg wet	8.938		81.2	56-156			
11Cl-PF3OUdS (F53B Major)	6.17	0.80	µg/kg wet	9.034		68.3	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	24.2	2.0	µg/kg wet	23.90		101	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	118	10	µg/kg wet	119.5		99.0	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	121	10	µg/kg wet	119.5		101	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.11	0.40	µg/kg wet	4.254		96.5	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.49	0.40	µg/kg wet	4.780		94.0	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.83	0.40	µg/kg wet	4.780		101	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.94	0.40	µg/kg wet	4.780		103	48-161			
Surrogate: 13C4-PFBA	*8.43*		µg/kg wet	9.958		84.7	10-130			
Surrogate: 13C5-PFPeA	*4.73*		µg/kg wet	4.979		95.0	35-150			
Surrogate: 13C5-PFHxA	*2.34*		µg/kg wet	2.490		94.1	55-150			
Surrogate: 13C4-PFHpA	*2.44*		µg/kg wet	2.490		97.9	55-150			
Surrogate: 13C8-PFOA	*2.27*		µg/kg wet	2.490		91.2	60-140			
Surrogate: 13C9-PFNA	*1.31*		µg/kg wet	1.245		105	55-140			
Surrogate: 13C6-PFDA	*1.33*		µg/kg wet	1.245		107	50-140			
Surrogate: 13C7-PFUnA	*1.19*		µg/kg wet	1.245		95.4	30-140			
Surrogate: 13C2-PFDoA	*1.24*		µg/kg wet	1.245		99.8	10-150			
Surrogate: 13C2-PFTeDA	*1.09*		µg/kg wet	1.245		87.4	10-130			
Surrogate: 13C3-PFBS	*2.74*		µg/kg wet	2.490		110	55-150			
Surrogate: 13C3-PFHxS	*2.43*		µg/kg wet	2.490		97.8	55-150			
Surrogate: 13C8-PFOS	*2.54*		µg/kg wet	2.490		102	45-140			
Surrogate: 13C2-4:2FTS	*5.05*		µg/kg wet	4.979		101	60-200			
Surrogate: 13C2-6:2FTS	*4.77*		µg/kg wet	4.979		95.7	60-200			
Surrogate: 13C2-8:2FTS	*3.96*		µg/kg wet	4.979		79.5	50-200			
Surrogate: 13C8-PFOSA	*2.88*		µg/kg wet	2.490		116	30-130			
Surrogate: D3-NMeFOSA	*2.07*		µg/kg wet	2.490		83.0	15-130			
Surrogate: D5-NEtFOSA	*2.10*		µg/kg wet	2.490		84.2	10-130			
Surrogate: D3-NMeFOSAA	*5.66*		µg/kg wet	4.979		114	45-200			
Surrogate: D5-NEtFOSAA	*6.01*		µg/kg wet	4.979		121	10-200			
Surrogate: D7-NMeFOSE	*21.1*		µg/kg wet	24.90		84.7	10-150			
Surrogate: D9-NEtFOSE	*18.1*		µg/kg wet	24.90		72.5	10-150			
Surrogate: 13C3-HFPO-DA	*9.35*		µg/kg wet	9.958		93.9	25-160			
MRL Check (B390329-MRL1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorobutanoic acid (PFBA)	0.651	0.78	µg/kg wet	0.7825		83.2	44-157			
Perfluoropentanoic acid (PFPeA)	0.374	0.39	µg/kg wet	0.3912		95.5	57-148			
Perfluorohexanoic acid (PFHxA)	0.199	0.20	µg/kg wet	0.1956		102	62-149			
Perfluoroheptanoic acid (PFHpA)	0.189	0.20	µg/kg wet	0.1956		96.5	56-150			
Perfluorooctanoic acid (PFOA)	0.194	0.20	µg/kg wet	0.1956		99.3	57-161			
Perfluorononanoic acid (PFNA)	0.150	0.20	µg/kg wet	0.1956		76.5	53-157			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
MRL Check (B390329-MRL1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Perfluorodecanoic acid (PFDA)	0.170	0.20	µg/kg wet	0.1956		86.8	43-158			
Perfluoroundecanoic acid (PFUnA)	0.188	0.20	µg/kg wet	0.1956		95.9	50-155			
Perfluorododecanoic acid (PFDoA)	0.196	0.20	µg/kg wet	0.1956		100	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.190	0.20	µg/kg wet	0.1956		97.2	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.184	0.20	µg/kg wet	0.1956		94.3	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.162	0.20	µg/kg wet	0.1735		93.4	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.178	0.20	µg/kg wet	0.1841		96.6	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.171	0.20	µg/kg wet	0.1788		95.8	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.176	0.20	µg/kg wet	0.1864		94.4	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.190	0.20	µg/kg wet	0.1815		105	43-162			
Perfluorononanesulfonic acid (PFNS)	0.174	0.20	µg/kg wet	0.1882		92.7	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.189	0.20	µg/kg wet	0.1888		100	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.154	0.20	µg/kg wet	0.1897		81.3	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.731	0.78	µg/kg wet	0.7336		99.6	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.767	0.78	µg/kg wet	0.7433		103	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.799	0.78	µg/kg wet	0.7512		106	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.177	0.20	µg/kg wet	0.1956		90.6	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.166	0.20	µg/kg wet	0.1956		84.7	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.174	0.20	µg/kg wet	0.1956		89.1	49-156			
N-MeFOSAA (NMeFOSAA)	0.202	0.20	µg/kg wet	0.1956		103	32-160			
N-EtFOSAA (NEtFOSAA)	0.152	0.20	µg/kg wet	0.1956		77.6	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	1.61	2.0	µg/kg wet	1.956		82.3	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	1.64	2.0	µg/kg wet	1.956		83.7	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.786	0.78	µg/kg wet	0.7825		100	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.689	0.78	µg/kg wet	0.7394		93.1	61-148			
9Cl-PF3ONS (F53B Minor)	0.609	0.78	µg/kg wet	0.7316		83.2	44-167			
11Cl-PF3OUdS (F53B Major)	0.519	0.78	µg/kg wet	0.7394		70.2	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.77	2.0	µg/kg wet	1.956		90.5	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	8.60	9.8	µg/kg wet	9.781		87.9	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	8.52	9.8	µg/kg wet	9.781		87.1	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.315	0.39	µg/kg wet	0.3482		90.4	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.356	0.39	µg/kg wet	0.3912		91.0	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.387	0.39	µg/kg wet	0.3912		98.9	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.368	0.39	µg/kg wet	0.3912		94.1	47-160			
Surrogate: 13C4-PFBA	*8.19*		µg/kg wet	9.781		83.8	10-130			
Surrogate: 13C5-PFPeA	*4.36*		µg/kg wet	4.890		89.1	35-150			
Surrogate: 13C5-PFHxA	*2.18*		µg/kg wet	2.445		89.0	55-150			
Surrogate: 13C4-PFHpA	*2.21*		µg/kg wet	2.445		90.5	55-150			
Surrogate: 13C8-PFOA	*2.20*		µg/kg wet	2.445		90.0	60-140			
Surrogate: 13C9-PFNA	*1.23*		µg/kg wet	1.223		100	55-140			
Surrogate: 13C6-PFDA	*1.25*		µg/kg wet	1.223		102	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390329 - Draft Method 1633										
MRL Check (B390329-MRL1)				Prepared: 10/30/24 Analyzed: 11/01/24						
Surrogate: 13C7-PFUnA	*1.04*		µg/kg wet	1.223		85.2	30-140			
Surrogate: 13C2-PFDoA	*1.13*		µg/kg wet	1.223		92.2	10-150			
Surrogate: 13C2-PFTeDA	*0.976*		µg/kg wet	1.223		79.9	10-130			
Surrogate: 13C3-PFBS	*2.55*		µg/kg wet	2.445		104	55-150			
Surrogate: 13C3-PFHxS	*2.39*		µg/kg wet	2.445		97.7	55-150			
Surrogate: 13C8-PFOS	*2.45*		µg/kg wet	2.445		100	45-140			
Surrogate: 13C2-4:2FTS	*5.02*		µg/kg wet	4.890		103	60-200			
Surrogate: 13C2-6:2FTS	*4.71*		µg/kg wet	4.890		96.3	60-200			
Surrogate: 13C2-8:2FTS	*3.88*		µg/kg wet	4.890		79.4	50-200			
Surrogate: 13C8-PFOSA	*2.61*		µg/kg wet	2.445		107	30-130			
Surrogate: D3-NMeFOSA	*1.86*		µg/kg wet	2.445		76.1	15-130			
Surrogate: D5-NEtFOSA	*1.72*		µg/kg wet	2.445		70.2	10-130			
Surrogate: D3-NMeFOSAA	*5.16*		µg/kg wet	4.890		106	45-200			
Surrogate: D5-NEtFOSAA	*5.51*		µg/kg wet	4.890		113	10-200			
Surrogate: D7-NMeFOSE	*18.5*		µg/kg wet	24.45		75.5	10-150			
Surrogate: D9-NEtFOSE	*14.7*		µg/kg wet	24.45		60.1	10-150			
Surrogate: 13C3-HFPO-DA	*9.10*		µg/kg wet	9.781		93.1	25-160			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389300 - Draft Method 1633										
Blank (B389300-BLK1)				Prepared & Analyzed: 10/15/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B389300-BS1)				Prepared & Analyzed: 10/15/24						
Total Suspended Solids	216	5.0	mg/L	200.0		108	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
S-29	Extracted Internal Standard is outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV
Perfluorotetradecanoic acid (PFTeDA)	NH-P,PA,WV
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,WV
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,WV
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,WV
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,WV
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV
N-EtFOSAA (NEtFOSAA)	NH-P,PA,WV
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,WV
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,WV
9Cl-PF3ONS (F53B Minor)	NH-P,PA,WV
11Cl-PF3OUdS (F53B Major)	NH-P,PA,WV
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,WV
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,PA,WV
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

24J1981

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Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Report To Name:	Michael Baker Intl
Address:	100 Airside Dr 15108
Phone:	412 269 6300
Project Name:	Saegertown PFAS
Project Location:	Saegertown, PA
Project Number:	189432
Project Manager:	Chris Kupfer
Con-Test Quote Name/Number:	00157747
Invoice Recipient:	MBI
Sampled By:	Brad Mikula

Turnaround Time Requested
- 7-Day ☐ 10-Day ☒
- PFAS 15-Day (std) ☐ Due Date:
- 1-Day ☐ 3-Day ☐
- 2-Day ☐ 4-Day ☐

Field Filtered ○ / Lab to Filter ○

Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

	Con Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1		SB-7-1	10/10/24	1340	G	S				1			X
2		SB-7-18		1345									
3		SB-6-1		1610									
4		SB-6-7		1615									
5		SB-6-7 Dup		1620									
6		SB-3-5		1730									
7		GWG-7		1430		GW				3			
8		GWG-7 Dup		1435									
9		GWG-6		1700									
10		GWG-6 Dup		1705									

[2] Preservation Code

Lab Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/10/24 2000
Received by: (signature)	Date/Time: 10/11/24 951
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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FedEx

October 14, 2024

Dear Customer,

The following is the proof-of-delivery for tracking number: 280516501094

Delivery Information:

Status:	Delivered	**Delivered To:**	Shipping/Receiving
Signed for by:	L.ARROYO	**Delivery Location:**	
Service type:	FedEx Priority Overnight		
Special Handling:	Deliver Weekday; Non Standard Packaging		East Longmeadow, MA,
		Delivery date:	Oct 11, 2024 09:51

Shipping Information:

Tracking number:	280516501094	**Ship Date:**	Oct 10, 2024
		Weight:	45.0 LB/20.43 KG

Recipient:	**Shipper:**
East Longmeadow, MA, US,	Moon Township, PA, US,

FedEx Express proof-of-delivery details appear below; however, no signature is currently available for this shipment. Please check again later for a signature.

Thank you for choosing FedEx

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

Client Michael Baker Intl

Project Sayertown PFAS

MCP/RCP Required NA

Deliverable Package Requirement NA

Location Sayertown, PA

PWSID# (When Applicable) NA

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time Evett 10-11-24 @ 951

Back-Sheet By / Date / Time Eli 10-14-24 @ 9:43

Temperature Method Gun #4

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics	1	1	1				1													
Sulfuric																						
Unpreserved	500mL								2	2	2	2										
Sulfuric																						
Unpreserved	250mL		1	1	1	1	1	1														
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					
125mL Plastic									1	1	1	1										

Qualtrax ID: 120836

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November 1, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24J2024

Enclosed are results of analyses for samples as received by the laboratory on October 11, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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24J2024-06 23

24J2024-07 26

24J2024-08 29

24J2024-09 32

24J2024-10 35

24J2024-11 38

24J2024-12 41

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 11/1/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J2024

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SB-5-1	24J2024-01	Soil		Draft Method 1633	
				SM 2540G	
SB-5-1 DUP	24J2024-02	Soil		Draft Method 1633	
				SM 2540G	
SB-8-1	24J2024-03	Soil		Draft Method 1633	
				SM 2540G	
SB-8-9	24J2024-04	Soil		Draft Method 1633	
				SM 2540G	
SB-13-1	24J2024-05	Soil		Draft Method 1633	
				SM 2540G	
SB-13-7	24J2024-06	Soil		Draft Method 1633	
				SM 2540G	
SB-12-1	24J2024-07	Soil		Draft Method 1633	
				SM 2540G	
SB-12-2	24J2024-08	Soil		Draft Method 1633	
				SM 2540G	
SB-9-1	24J2024-09	Soil		Draft Method 1633	
				SM 2540G	
SB-9-3	24J2024-10	Soil		Draft Method 1633	
				SM 2540G	
GWG-9	24J2024-11	Ground Water		Draft Method 1633	
EB-04	24J2024-12	Equipment Blank Water		Draft Method 1633	
FB-01	24J2024-13	Field Blank		Draft Method 1633	
GWG-5	24J2024-14	Ground Water		Draft Method 1633	
GWG-8	24J2024-15	Ground Water		Draft Method 1633	
SB-5-7	24J2024-16	Soil		Draft Method 1633	
				SM 2540G	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Draft Method 1633

Qualifications:

D-04

Sample extracted at a dilution due to insufficient volume provided.

Analyte & Samples(s) Qualified:

24J2024-11[GWG-9], 24J2024-13[FB-01]

PF-18

Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.

Analyte & Samples(s) Qualified:

D3-NMeFOSA
24J2024-01RE1[SB-5-1], 24J2024-02RE1[SB-5-1 DUP], 24J2024-05RE1[SB-13-1], 24J2024-06RE1[SB-13-7], 24J2024-10RE1[SB-9-3], 24J2024-16RE1[SB-5-7]

D5-NEtFOSA
24J2024-01RE1[SB-5-1], 24J2024-02RE1[SB-5-1 DUP], 24J2024-05RE1[SB-13-1], 24J2024-06RE1[SB-13-7], 24J2024-10RE1[SB-9-3], 24J2024-16RE1[SB-5-7]

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
24J2024-01RE1[SB-5-1], 24J2024-02RE1[SB-5-1 DUP], 24J2024-05RE1[SB-13-1], 24J2024-06RE1[SB-13-7], 24J2024-10RE1[SB-9-3], 24J2024-16RE1[SB-5-7]

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
24J2024-01RE1[SB-5-1], 24J2024-02RE1[SB-5-1 DUP], 24J2024-05RE1[SB-13-1], 24J2024-06RE1[SB-13-7], 24J2024-10RE1[SB-9-3], 24J2024-16RE1[SB-5-7]

PF-22

Qualifier ion ratio >150% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonamide (PFOSA)
24J2024-07RE1[SB-12-1]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C2-PFTeDA
S112918-CCV4, S112944-CCV2, S113165-CCV2, S113206-CCV2

13C3-PFBS
S113206-CCV4

13C8-PFOSA
24J2024-07RE1[SB-12-1], S112918-CCV2, S112944-CCV2, S112944-CCV3, S113050-CCV2, S113050-CCV3, S113165-CCV2, S113206-CCV2, S113206-CCV3, S113206-CCV4, S113224-CCV2

D5-NEtFOSA
S113165-CCV2

D7-NMeFOSE
S113224-CCV2

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
S113165-CCV2

N-methylperfluorooctanesulfonamidoethanol(NMeF
S113224-CCV2

Perfluorobutanesulfonic acid (PFBS)
S113206-CCV4

Perfluorooctanesulfonamide (PFOSA)
24J2024-07RE1[SB-12-1], S112918-CCV2, S112944-CCV2, S112944-CCV3, S113050-CCV2, S113050-CCV3, S113165-CCV2, S113206-CCV2, S113206-CCV3, S113206-CCV4, S113224-CCV2

Perfluorotetradecanoic acid (PFTeDA)
S112918-CCV4, S112944-CCV2, S113165-CCV2, S113206-CCV2

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
24J2024-01RE1[SB-5-1], 24J2024-02RE1[SB-5-1 DUP], 24J2024-03RE1[SB-8-1], 24J2024-04RE1[SB-8-9], 24J2024-05RE1[SB-13-1], 24J2024-06RE1[SB-13-7], 24J2024-07RE1[SB-12-1], 24J2024-08RE1[SB-12-2], 24J2024-09RE1[SB-9-1], 24J2024-10RE1[SB-9-3], 24J2024-16RE1[SB-5-7], S 113206-CCV3

SM 2540G

Qualifications:

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H-06

Sample was extracted past the recommended holding time.

Analyte & Samples(s) Qualified:

% Solids

24J2024-16[SB-5-7]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 | Sampled: 10/9/2024 13:45

Sample ID: 24J2024-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 13:10	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 | Sampled: 10/9/2024 13:45

Sample ID: 24J2024-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39		µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39		µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:10	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	79.7		10-130		10/31/24 13:10
13C5-PFPeA	85.7		35-150		10/31/24 13:10
13C5-PFHxA	85.9		55-150		10/31/24 13:10
13C4-PFHpA	89.4		55-150		10/31/24 13:10
13C8-PFOA	89.4		60-140		10/31/24 13:10
13C9-PFNA	94.6		55-140		10/31/24 13:10
13C6-PFDA	96.8		50-140		10/31/24 13:10
13C7-PFUnA	78.2		30-140		10/31/24 13:10
13C2-PFDoA	83.3		10-150		10/31/24 13:10
13C2-PFTeDA	77.3		10-130		10/31/24 13:10
13C3-PFBS	97.0		55-150		10/31/24 13:10
13C3-PFHxS	88.3		55-150		10/31/24 13:10
13C8-PFOS	96.0		45-140		10/31/24 13:10
13C2-4:2FTS	91.5		60-200		10/31/24 13:10
13C2-6:2FTS	87.8		60-200		10/31/24 13:10
13C2-8:2FTS	74.1		50-200		10/31/24 13:10
13C8-PFOSA	92.6		30-130		10/31/24 13:10
D3-NMeFOSA	**3.61**	*	15-130	PF-18	10/31/24 13:10
D5-NEtFOSA	**0.745**	*	10-130	PF-18	10/31/24 13:10
D3-NMeFOSAA	86.9		45-200		10/31/24 13:10
D5-NEtFOSAA	96.9		10-200		10/31/24 13:10
D7-NMeFOSE	27.1		10-150		10/31/24 13:10
D9-NEtFOSE	19.2		10-150		10/31/24 13:10
13C3-HFPO-DA	83.2		25-160		10/31/24 13:10

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 | Sampled: 10/9/2024 13:45

Sample ID: 24J2024-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 DUP | Sampled: 10/9/2024 13:50

Sample ID: 24J2024-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 13:26	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 DUP | Sampled: 10/9/2024 13:50

Sample ID: 24J2024-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:26	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	79.3		10-130		10/31/24 13:26
13C5-PFPeA	86.5		35-150		10/31/24 13:26
13C5-PFHxA	86.3		55-150		10/31/24 13:26
13C4-PFHpA	89.7		55-150		10/31/24 13:26
13C8-PFOA	88.4		60-140		10/31/24 13:26
13C9-PFNA	92.4		55-140		10/31/24 13:26
13C6-PFDA	93.5		50-140		10/31/24 13:26
13C7-PFUnA	80.7		30-140		10/31/24 13:26
13C2-PFDoA	86.5		10-150		10/31/24 13:26
13C2-PFTeDA	79.7		10-130		10/31/24 13:26
13C3-PFBS	97.7		55-150		10/31/24 13:26
13C3-PFHxS	85.1		55-150		10/31/24 13:26
13C8-PFOS	93.9		45-140		10/31/24 13:26
13C2-4:2FTS	93.6		60-200		10/31/24 13:26
13C2-6:2FTS	86.4		60-200		10/31/24 13:26
13C2-8:2FTS	75.6		50-200		10/31/24 13:26
13C8-PFOSA	94.0		30-130		10/31/24 13:26
D3-NMeFOSA	**10.6**	*	15-130	PF-18	10/31/24 13:26
D5-NEtFOSA	**4.73**	*	10-130	PF-18	10/31/24 13:26
D3-NMeFOSAA	87.4		45-200		10/31/24 13:26
D5-NEtFOSAA	91.4		10-200		10/31/24 13:26
D7-NMeFOSE	43.3		10-150		10/31/24 13:26
D9-NEtFOSE	33.1		10-150		10/31/24 13:26
13C3-HFPO-DA	88.5		25-160		10/31/24 13:26

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-1 DUP | Sampled: 10/9/2024 13:50

Sample ID: 24J2024-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.9		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-1 | Sampled: 10/9/2024 14:30

Sample ID: 24J2024-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 13:42	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-1 | Sampled: 10/9/2024 14:30

Sample ID: 24J2024-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:42	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	75.8	10-130		10/31/24 13:42
13C5-PFPeA	79.9	35-150		10/31/24 13:42
13C5-PFHxA	82.0	55-150		10/31/24 13:42
13C4-PFHpA	84.7	55-150		10/31/24 13:42
13C8-PFOA	84.9	60-140		10/31/24 13:42
13C9-PFNA	85.1	55-140		10/31/24 13:42
13C6-PFDA	87.4	50-140		10/31/24 13:42
13C7-PFUnA	79.7	30-140		10/31/24 13:42
13C2-PFDoA	86.0	10-150		10/31/24 13:42
13C2-PFTeDA	77.5	10-130		10/31/24 13:42
13C3-PFBS	93.3	55-150		10/31/24 13:42
13C3-PFHxS	84.8	55-150		10/31/24 13:42
13C8-PFOS	90.2	45-140		10/31/24 13:42
13C2-4:2FTS	89.9	60-200		10/31/24 13:42
13C2-6:2FTS	87.8	60-200		10/31/24 13:42
13C2-8:2FTS	74.9	50-200		10/31/24 13:42
13C8-PFOSA	86.8	30-130		10/31/24 13:42
D3-NMeFOSA	43.2	15-130		10/31/24 13:42
D5-NEtFOSA	35.3	10-130		10/31/24 13:42
D3-NMeFOSAA	78.3	45-200		10/31/24 13:42
D5-NEtFOSAA	86.9	10-200		10/31/24 13:42
D7-NMeFOSE	77.3	10-150		10/31/24 13:42
D9-NEtFOSE	71.7	10-150		10/31/24 13:42
13C3-HFPO-DA	78.2	25-160		10/31/24 13:42

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-1 | Sampled: 10/9/2024 14:30

Sample ID: 24J2024-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.0		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-9 | Sampled: 10/9/2024 14:35

Sample ID: 24J2024-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorooctanesulfonic acid (PFOS)	0.23	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 13:57	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	10	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-9 | Sampled: 10/9/2024 14:35

Sample ID: 24J2024-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 13:57	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.9	10-130		10/31/24 13:57
13C5-PFPeA	83.7	35-150		10/31/24 13:57
13C5-PFHxA	83.6	55-150		10/31/24 13:57
13C4-PFHpA	86.4	55-150		10/31/24 13:57
13C8-PFOA	86.1	60-140		10/31/24 13:57
13C9-PFNA	88.6	55-140		10/31/24 13:57
13C6-PFDA	92.6	50-140		10/31/24 13:57
13C7-PFUnA	79.0	30-140		10/31/24 13:57
13C2-PFDoA	80.6	10-150		10/31/24 13:57
13C2-PFTeDA	71.3	10-130		10/31/24 13:57
13C3-PFBS	94.1	55-150		10/31/24 13:57
13C3-PFHxS	86.2	55-150		10/31/24 13:57
13C8-PFOS	84.3	45-140		10/31/24 13:57
13C2-4:2FTS	94.5	60-200		10/31/24 13:57
13C2-6:2FTS	86.7	60-200		10/31/24 13:57
13C2-8:2FTS	72.4	50-200		10/31/24 13:57
13C8-PFOSA	87.5	30-130		10/31/24 13:57
D3-NMeFOSA	34.8	15-130		10/31/24 13:57
D5-NEtFOSA	23.5	10-130		10/31/24 13:57
D3-NMeFOSAA	84.9	45-200		10/31/24 13:57
D5-NEtFOSAA	97.6	10-200		10/31/24 13:57
D7-NMeFOSE	68.2	10-150		10/31/24 13:57
D9-NEtFOSE	61.2	10-150		10/31/24 13:57
13C3-HFPO-DA	87.0	25-160		10/31/24 13:57

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-8-9 | Sampled: 10/9/2024 14:35

Sample ID: 24J2024-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-1 | Sampled: 10/9/2024 15:10

Sample ID: 24J2024-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorooctanesulfonic acid (PFOS)	0.33	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 14:13	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.8	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-1 | Sampled: 10/9/2024 15:10

Sample ID: 24J2024-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:13	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	81.6		10-130		10/31/24 14:13
13C5-PFPeA	90.0		35-150		10/31/24 14:13
13C5-PFHxA	90.7		55-150		10/31/24 14:13
13C4-PFHpA	93.7		55-150		10/31/24 14:13
13C8-PFOA	97.5		60-140		10/31/24 14:13
13C9-PFNA	100		55-140		10/31/24 14:13
13C6-PFDA	96.8		50-140		10/31/24 14:13
13C7-PFUnA	84.3		30-140		10/31/24 14:13
13C2-PFDoA	86.5		10-150		10/31/24 14:13
13C2-PFTeDA	56.7		10-130		10/31/24 14:13
13C3-PFBS	101		55-150		10/31/24 14:13
13C3-PFHxS	89.1		55-150		10/31/24 14:13
13C8-PFOS	89.9		45-140		10/31/24 14:13
13C2-4:2FTS	95.1		60-200		10/31/24 14:13
13C2-6:2FTS	93.6		60-200		10/31/24 14:13
13C2-8:2FTS	81.5		50-200		10/31/24 14:13
13C8-PFOSA	93.8		30-130		10/31/24 14:13
D3-NMeFOSA	**12.2**	*	15-130	PF-18	10/31/24 14:13
D5-NEtFOSA	**6.08**	*	10-130	PF-18	10/31/24 14:13
D3-NMeFOSAA	94.6		45-200		10/31/24 14:13
D5-NEtFOSAA	104		10-200		10/31/24 14:13
D7-NMeFOSE	59.7		10-150		10/31/24 14:13
D9-NEtFOSE	49.5		10-150		10/31/24 14:13
13C3-HFPO-DA	88.6		25-160		10/31/24 14:13

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-1 | Sampled: 10/9/2024 15:10

Sample ID: 24J2024-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.9		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-7 | Sampled: 10/9/2024 15:15

Sample ID: 24J2024-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 14:29	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-7 | Sampled: 10/9/2024 15:15

Sample ID: 24J2024-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39		µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39		µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:29	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	76.2		10-130		10/31/24 14:29
13C5-PFPeA	84.6		35-150		10/31/24 14:29
13C5-PFHxA	85.0		55-150		10/31/24 14:29
13C4-PFHpA	87.8		55-150		10/31/24 14:29
13C8-PFOA	88.2		60-140		10/31/24 14:29
13C9-PFNA	93.2		55-140		10/31/24 14:29
13C6-PFDA	94.0		50-140		10/31/24 14:29
13C7-PFUnA	80.1		30-140		10/31/24 14:29
13C2-PFDoA	85.2		10-150		10/31/24 14:29
13C2-PFTeDA	79.7		10-130		10/31/24 14:29
13C3-PFBS	98.8		55-150		10/31/24 14:29
13C3-PFHxS	86.7		55-150		10/31/24 14:29
13C8-PFOS	88.8		45-140		10/31/24 14:29
13C2-4:2FTS	93.7		60-200		10/31/24 14:29
13C2-6:2FTS	89.8		60-200		10/31/24 14:29
13C2-8:2FTS	75.5		50-200		10/31/24 14:29
13C8-PFOSA	90.9		30-130		10/31/24 14:29
D3-NMeFOSA	**12.1**	*	15-130	PF-18	10/31/24 14:29
D5-NEtFOSA	**4.59**	*	10-130	PF-18	10/31/24 14:29
D3-NMeFOSAA	91.7		45-200		10/31/24 14:29
D5-NEtFOSAA	99.8		10-200		10/31/24 14:29
D7-NMeFOSE	49.1		10-150		10/31/24 14:29
D9-NEtFOSE	38.8		10-150		10/31/24 14:29
13C3-HFPO-DA	91.3		25-160		10/31/24 14:29

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-13-7 | Sampled: 10/9/2024 15:15

Sample ID: 24J2024-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.4		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-1 | Sampled: 10/9/2024 16:00

Sample ID: 24J2024-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorohexanoic acid (PFHxA)	1.7	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoroheptanoic acid (PFHpA)	0.26	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorooctanoic acid (PFOA)	0.79	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorobutanesulfonic acid (PFBS)	1.0	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoropentanesulfonic acid (PFPeS)	1.5	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorohexanesulfonic acid (PFHxS)	15	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoroheptanesulfonic acid (PFHpS)	1.5	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorooctanesulfonic acid (PFOS)	180	1.9	µg/kg dry	10	D	Draft Method 1633	10/29/24	10/31/24 15:00	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluorooctanesulfonamide (PFOSA)	0.31	0.19	µg/kg dry	1	PF-22, S-29	Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 14:44	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-1 | Sampled: 10/9/2024 16:00

Sample ID: 24J2024-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 14:44	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	79.6		10-130		10/31/24 14:44
13C5-PFPeA	81.2		35-150		10/31/24 14:44
13C5-PFHxA	82.9		55-150		10/31/24 14:44
13C4-PFHpA	84.1		55-150		10/31/24 14:44
13C8-PFOA	85.1		60-140		10/31/24 14:44
13C9-PFNA	88.6		55-140		10/31/24 14:44
13C6-PFDA	89.6		50-140		10/31/24 14:44
13C7-PFUnA	80.5		30-140		10/31/24 14:44
13C2-PFDoA	85.8		10-150		10/31/24 14:44
13C2-PFTeDA	81.5		10-130		10/31/24 14:44
13C3-PFBS	97.3		55-150		10/31/24 14:44
13C3-PFHxS	83.6		55-150		10/31/24 14:44
13C8-PFOS	81.9		45-140		10/31/24 15:00
13C2-4:2FTS	100		60-200		10/31/24 14:44
13C2-6:2FTS	91.0		60-200		10/31/24 14:44
13C2-8:2FTS	80.3		50-200		10/31/24 14:44
13C8-PFOSA	**134**	*	30-130	S-29	10/31/24 14:44
D3-NMeFOSA	35.0		15-130		10/31/24 14:44
D5-NEtFOSA	20.2		10-130		10/31/24 14:44
D3-NMeFOSAA	121		45-200		10/31/24 14:44
D5-NEtFOSAA	96.9		10-200		10/31/24 14:44
D7-NMeFOSE	71.2		10-150		10/31/24 14:44
D9-NEtFOSE	57.4		10-150		10/31/24 14:44
13C3-HFPO-DA	84.6		25-160		10/31/24 14:44

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-1 | Sampled: 10/9/2024 16:00

Sample ID: 24J2024-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.1		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-2 | Sampled: 10/9/2024 16:05

Sample ID: 24J2024-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorohexanoic acid (PFHxA)	1.1	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoroheptanoic acid (PFHpA)	0.22	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorooctanoic acid (PFOA)	0.80	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorobutanesulfonic acid (PFBS)	0.97	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoropentanesulfonic acid (PFPeS)	1.4	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorohexanesulfonic acid (PFHxS)	12	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoroheptanesulfonic acid (PFHpS)	0.98	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorooctanesulfonic acid (PFOS)	74	2.0	µg/kg dry	10		Draft Method 1633	10/29/24	11/1/24 12:27	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 15:16	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-2 | Sampled: 10/9/2024 16:05

Sample ID: 24J2024-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:16	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	80.7		10-130		10/31/24 15:16
13C5-PFPeA	87.0		35-150		10/31/24 15:16
13C5-PFHxA	89.0		55-150		10/31/24 15:16
13C4-PFHpA	91.3		55-150		10/31/24 15:16
13C8-PFOA	89.1		60-140		10/31/24 15:16
13C9-PFNA	97.1		55-140		10/31/24 15:16
13C6-PFDA	101		50-140		10/31/24 15:16
13C7-PFUnA	84.2		30-140		10/31/24 15:16
13C2-PFDoA	96.5		10-150		10/31/24 15:16
13C2-PFTeDA	89.1		10-130		10/31/24 15:16
13C3-PFBS	108		55-150		10/31/24 15:16
13C3-PFHxS	92.1		55-150		10/31/24 15:16
13C8-PFOS	95.8		45-140		10/31/24 15:16
13C8-PFOS	73.8		45-140		11/1/24 12:27
13C2-4:2FTS	102		60-200		10/31/24 15:16
13C2-6:2FTS	98.7		60-200		10/31/24 15:16
13C2-8:2FTS	87.8		50-200		10/31/24 15:16
13C8-PFOSA	114		30-130		10/31/24 15:16
D3-NMeFOSA	15.7		15-130		10/31/24 15:16
D5-NEtFOSA	**5.67**	*	10-130		10/31/24 15:16
D3-NMeFOSAA	106		45-200		10/31/24 15:16
D5-NEtFOSAA	101		10-200		10/31/24 15:16
D7-NMeFOSE	32.4		10-150		10/31/24 15:16
D9-NEtFOSE	21.3		10-150		10/31/24 15:16
13C3-HFPO-DA	91.2		25-160		10/31/24 15:16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-12-2 | Sampled: 10/9/2024 16:05

Sample ID: 24J2024-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	82.5		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-1 | Sampled: 10/9/2024 16:40

Sample ID: 24J2024-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorohexanesulfonic acid (PFHxS)	0.55	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorooctanesulfonic acid (PFOS)	14	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 15:32	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-1 | Sampled: 10/9/2024 16:40

Sample ID: 24J2024-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 15:32	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.7	10-130		10/31/24 15:32
13C5-PFPeA	84.3	35-150		10/31/24 15:32
13C5-PFHxA	84.9	55-150		10/31/24 15:32
13C4-PFHpA	89.2	55-150		10/31/24 15:32
13C8-PFOA	84.9	60-140		10/31/24 15:32
13C9-PFNA	93.6	55-140		10/31/24 15:32
13C6-PFDA	97.7	50-140		10/31/24 15:32
13C7-PFUnA	84.8	30-140		10/31/24 15:32
13C2-PFDoA	90.6	10-150		10/31/24 15:32
13C2-PFTeDA	88.2	10-130		10/31/24 15:32
13C3-PFBS	99.3	55-150		10/31/24 15:32
13C3-PFHxS	89.4	55-150		10/31/24 15:32
13C8-PFOS	93.0	45-140		10/31/24 15:32
13C2-4:2FTS	96.3	60-200		10/31/24 15:32
13C2-6:2FTS	93.9	60-200		10/31/24 15:32
13C2-8:2FTS	78.3	50-200		10/31/24 15:32
13C8-PFOSA	99.1	30-130		10/31/24 15:32
D3-NMeFOSA	28.7	15-130		10/31/24 15:32
D5-NEtFOSA	16.3	10-130		10/31/24 15:32
D3-NMeFOSAA	91.3	45-200		10/31/24 15:32
D5-NEtFOSAA	92.6	10-200		10/31/24 15:32
D7-NMeFOSE	68.5	10-150		10/31/24 15:32
D9-NEtFOSE	60.1	10-150		10/31/24 15:32
13C3-HFPO-DA	86.2	25-160		10/31/24 15:32

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-1 | Sampled: 10/9/2024 16:40

Sample ID: 24J2024-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-3 | Sampled: 10/9/2024 16:45

Sample ID: 24J2024-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorohexanesulfonic acid (PFHxS)	0.75	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorooctanesulfonic acid (PFOS)	13	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 16:19	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-3 | Sampled: 10/9/2024 16:45

Sample ID: 24J2024-10

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:19	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	75.9		10-130		10/31/24 16:19
13C5-PFPeA	88.7		35-150		10/31/24 16:19
13C5-PFHxA	89.9		55-150		10/31/24 16:19
13C4-PFHpA	93.2		55-150		10/31/24 16:19
13C8-PFOA	91.4		60-140		10/31/24 16:19
13C9-PFNA	96.3		55-140		10/31/24 16:19
13C6-PFDA	103		50-140		10/31/24 16:19
13C7-PFUnA	91.2		30-140		10/31/24 16:19
13C2-PFDoA	98.9		10-150		10/31/24 16:19
13C2-PFTeDA	93.8		10-130		10/31/24 16:19
13C3-PFBS	101		55-150		10/31/24 16:19
13C3-PFHxS	89.6		55-150		10/31/24 16:19
13C8-PFOS	95.2		45-140		10/31/24 16:19
13C2-4:2FTS	102		60-200		10/31/24 16:19
13C2-6:2FTS	96.1		60-200		10/31/24 16:19
13C2-8:2FTS	80.6		50-200		10/31/24 16:19
13C8-PFOSA	100		30-130		10/31/24 16:19
D3-NMeFOSA	**6.03**	*	15-130	PF-18	10/31/24 16:19
D5-NEtFOSA	**2.53**	*	10-130	PF-18	10/31/24 16:19
D3-NMeFOSAA	99.4		45-200		10/31/24 16:19
D5-NEtFOSAA	96.9		10-200		10/31/24 16:19
D7-NMeFOSE	30.9		10-150		10/31/24 16:19
D9-NEtFOSE	21.8		10-150		10/31/24 16:19
13C3-HFPO-DA	89.8		25-160		10/31/24 16:19

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-9-3 | Sampled: 10/9/2024 16:45

Sample ID: 24J2024-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	10/16/24	10/16/24 11:01	MLR

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-9 | Sampled: 10/9/2024 17:30

Sample ID: 24J2024-11

Sample Matrix: Ground Water

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	10	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoropentanoic acid (PFPeA)	19	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorohexanoic acid (PFHxA)	24	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoroheptanoic acid (PFHpA)	15	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorooctanoic acid (PFOA)	22	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorononanoic acid (PFNA)	12	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorodecanoic acid (PFDA)	7.5	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoroundecanoic acid (PFUnA)	3.7	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorobutanesulfonic acid (PFBS)	10	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoropentanesulfonic acid (PFPeS)	19	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorohexanesulfonic acid (PFHxS)	300	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoroheptanesulfonic acid (PFHpS)	21	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorooctanesulfonic acid (PFOS)	2800	10	ng/L	10	D	Draft Method 1633	10/22/24	10/28/24 14:32	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-9 | Sampled: 10/9/2024 17:30

Sample ID: 24J2024-11

Sample Matrix: Ground Water

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 0:53	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	67.3	10-130		10/28/24 0:53
13C5-PFPeA	63.9	35-150		10/28/24 0:53
13C5-PFHxA	62.4	55-150		10/28/24 0:53
13C4-PFHpA	65.2	55-150		10/28/24 0:53
13C8-PFOA	60.6	60-140		10/28/24 0:53
13C9-PFNA	65.6	55-140		10/28/24 0:53
13C6-PFDA	62.7	50-140		10/28/24 0:53
13C7-PFUnA	50.7	30-140		10/28/24 0:53
13C2-PFDoA	46.3	10-150		10/28/24 0:53
13C2-PFTeDA	44.3	10-130		10/28/24 0:53
13C3-PFBS	77.9	55-150		10/28/24 0:53
13C3-PFHxS	66.0	55-150		10/28/24 0:53
13C8-PFOS	68.5	45-140		10/28/24 0:53
13C8-PFOS	80.2	45-140		10/28/24 14:32
13C2-4:2FTS	92.9	60-200		10/28/24 0:53
13C2-6:2FTS	71.8	60-200		10/28/24 0:53
13C2-8:2FTS	56.2	50-200		10/28/24 0:53
13C8-PFOSA	114	30-130		10/28/24 0:53
D3-NMeFOSA	80.8	15-130		10/28/24 0:53
D5-NEtFOSA	85.9	10-130		10/28/24 0:53
D3-NMeFOSAA	99.9	45-200		10/28/24 0:53
D5-NEtFOSAA	61.3	10-200		10/28/24 0:53
D7-NMeFOSE	82.3	10-150		10/28/24 0:53
D9-NEtFOSE	77.4	10-150		10/28/24 0:53
13C3-HFPO-DA	65.8	25-160		10/28/24 0:53

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-9 | Sampled: 10/9/2024 17:30

Sample ID: 24J2024-11

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	3700	14	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: EB-04 | Sampled: 10/10/2024 08:30

Sample ID: 24J2024-12

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: EB-04 | Sampled: 10/10/2024 08:30

Sample ID: 24J2024-12

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:08	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	73.0	10-130		10/28/24 1:08
13C5-PFPeA	78.1	35-150		10/28/24 1:08
13C5-PFHxA	73.8	55-150		10/28/24 1:08
13C4-PFHpA	79.7	55-150		10/28/24 1:08
13C8-PFOA	73.0	60-140		10/28/24 1:08
13C9-PFNA	84.6	55-140		10/28/24 1:08
13C6-PFDA	84.5	50-140		10/28/24 1:08
13C7-PFUnA	71.2	30-140		10/28/24 1:08
13C2-PFDoA	78.0	10-150		10/28/24 1:08
13C2-PFTeDA	76.4	10-130		10/28/24 1:08
13C3-PFBS	84.8	55-150		10/28/24 1:08
13C3-PFHxS	79.7	55-150		10/28/24 1:08
13C8-PFOS	81.6	45-140		10/28/24 1:08
13C2-4:2FTS	77.0	60-200		10/28/24 1:08
13C2-6:2FTS	78.1	60-200		10/28/24 1:08
13C2-8:2FTS	73.8	50-200		10/28/24 1:08
13C8-PFOSA	80.1	30-130		10/28/24 1:08
D3-NMeFOSA	66.3	15-130		10/28/24 1:08
D5-NEtFOSA	75.8	10-130		10/28/24 1:08
D3-NMeFOSAA	85.9	45-200		10/28/24 1:08
D5-NEtFOSAA	93.0	10-200		10/28/24 1:08
D7-NMeFOSE	76.7	10-150		10/28/24 1:08
D9-NEtFOSE	72.6	10-150		10/28/24 1:08
13C3-HFPO-DA	75.2	25-160		10/28/24 1:08

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: EB-04 | Sampled: 10/10/2024 08:30

Sample ID: 24J2024-12

Sample Matrix: Equipment Blank Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 14:11	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: FB-01

Sample ID: 24J2024-13 | Start Date/Time: 10/10/2024 8:30:00AM

Sample Matrix: Field Blank | Stop Date/Time: 10/10/2024 9:00:00AM

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	52	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	52	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: FB-01

Sample ID: 24J2024-13 | Start Date/Time: 10/10/2024 8:30:00AM

Sample Matrix: Field Blank | Stop Date/Time: 10/10/2024 9:00:00AM

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.1	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:24	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	71.8	10-130		10/28/24 1:24
13C5-PFPeA	76.2	35-150		10/28/24 1:24
13C5-PFHxA	74.2	55-150		10/28/24 1:24
13C4-PFHpA	79.5	55-150		10/28/24 1:24
13C8-PFOA	69.8	60-140		10/28/24 1:24
13C9-PFNA	74.3	55-140		10/28/24 1:24
13C6-PFDA	75.4	50-140		10/28/24 1:24
13C7-PFUnA	71.0	30-140		10/28/24 1:24
13C2-PFDoA	70.7	10-150		10/28/24 1:24
13C2-PFTeDA	69.7	10-130		10/28/24 1:24
13C3-PFBS	83.8	55-150		10/28/24 1:24
13C3-PFHxS	74.1	55-150		10/28/24 1:24
13C8-PFOS	77.4	45-140		10/28/24 1:24
13C2-4:2FTS	77.4	60-200		10/28/24 1:24
13C2-6:2FTS	77.5	60-200		10/28/24 1:24
13C2-8:2FTS	65.9	50-200		10/28/24 1:24
13C8-PFOSA	80.0	30-130		10/28/24 1:24
D3-NMeFOSA	68.1	15-130		10/28/24 1:24
D5-NEtFOSA	73.9	10-130		10/28/24 1:24
D3-NMeFOSAA	84.8	45-200		10/28/24 1:24
D5-NEtFOSAA	88.8	10-200		10/28/24 1:24
D7-NMeFOSE	75.5	10-150		10/28/24 1:24
D9-NEtFOSE	72.1	10-150		10/28/24 1:24
13C3-HFPO-DA	72.8	25-160		10/28/24 1:24

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: FB-01

Sample ID: 24J2024-13 | Start Date/Time: 10/10/2024 8:30:00AM

Sample Matrix: Field Blank | Stop Date/Time: 10/10/2024 9:00:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 14:11	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-5 | Sampled: 10/9/2024 10:25

Sample ID: 24J2024-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.4	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoropentanoic acid (PFPeA)	14	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorohexanoic acid (PFHxA)	36	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoroheptanoic acid (PFHpA)	7.1	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorooctanoic acid (PFOA)	22	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorononanoic acid (PFNA)	11	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorobutanesulfonic acid (PFBS)	42	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoropentanesulfonic acid (PFPeS)	51	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorohexanesulfonic acid (PFHxS)	460	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoroheptanesulfonic acid (PFHpS)	44	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorooctanesulfonic acid (PFOS)	1600	10	ng/L	10	D	Draft Method 1633	10/22/24	10/28/24 15:19	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-5 | Sampled: 10/9/2024 10:25

Sample ID: 24J2024-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:40	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	74.1	10-130		10/28/24 1:40
13C5-PFPeA	84.7	35-150		10/28/24 1:40
13C5-PFHxA	80.4	55-150		10/28/24 1:40
13C4-PFHpA	86.4	55-150		10/28/24 1:40
13C8-PFOA	74.0	60-140		10/28/24 1:40
13C9-PFNA	92.1	55-140		10/28/24 1:40
13C6-PFDA	84.8	50-140		10/28/24 1:40
13C7-PFUnA	75.9	30-140		10/28/24 1:40
13C2-PFDoA	74.2	10-150		10/28/24 1:40
13C2-PFTeDA	71.7	10-130		10/28/24 1:40
13C3-PFBS	104	55-150		10/28/24 1:40
13C3-PFHxS	82.7	55-150		10/28/24 1:40
13C8-PFOS	80.6	45-140		10/28/24 1:40
13C8-PFOS	72.8	45-140		10/28/24 15:19
13C2-4:2FTS	96.5	60-200		10/28/24 1:40
13C2-6:2FTS	96.3	60-200		10/28/24 1:40
13C2-8:2FTS	78.7	50-200		10/28/24 1:40
13C8-PFOSA	118	30-130		10/28/24 1:40
D3-NMeFOSA	72.5	15-130		10/28/24 1:40
D5-NEtFOSA	80.1	10-130		10/28/24 1:40
D3-NMeFOSAA	109	45-200		10/28/24 1:40
D5-NEtFOSAA	85.2	10-200		10/28/24 1:40
D7-NMeFOSE	89.3	10-150		10/28/24 1:40
D9-NEtFOSE	81.2	10-150		10/28/24 1:40
13C3-HFPO-DA	81.4	25-160		10/28/24 1:40

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-5 | Sampled: 10/9/2024 10:25

Sample ID: 24J2024-14

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	86	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-8 | Sampled: 10/9/2024 11:45

Sample ID: 24J2024-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorononanoic acid (PFNA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorodecanoic acid (PFDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	10	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	51	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-8 | Sampled: 10/9/2024 11:45

Sample ID: 24J2024-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	10/22/24	10/28/24 1:55	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	66.1	10-130		10/28/24 1:55
13C5-PFPeA	75.3	35-150		10/28/24 1:55
13C5-PFHxA	71.9	55-150		10/28/24 1:55
13C4-PFHpA	77.1	55-150		10/28/24 1:55
13C8-PFOA	69.3	60-140		10/28/24 1:55
13C9-PFNA	79.2	55-140		10/28/24 1:55
13C6-PFDA	77.0	50-140		10/28/24 1:55
13C7-PFUnA	68.8	30-140		10/28/24 1:55
13C2-PFDoA	68.9	10-150		10/28/24 1:55
13C2-PFTeDA	70.4	10-130		10/28/24 1:55
13C3-PFBS	82.4	55-150		10/28/24 1:55
13C3-PFHxS	73.9	55-150		10/28/24 1:55
13C8-PFOS	76.4	45-140		10/28/24 1:55
13C2-4:2FTS	72.7	60-200		10/28/24 1:55
13C2-6:2FTS	76.0	60-200		10/28/24 1:55
13C2-8:2FTS	63.9	50-200		10/28/24 1:55
13C8-PFOSA	76.4	30-130		10/28/24 1:55
D3-NMeFOSA	60.5	15-130		10/28/24 1:55
D5-NEtFOSA	66.9	10-130		10/28/24 1:55
D3-NMeFOSAA	79.9	45-200		10/28/24 1:55
D5-NEtFOSAA	90.6	10-200		10/28/24 1:55
D7-NMeFOSE	68.1	10-150		10/28/24 1:55
D9-NEtFOSE	64.5	10-150		10/28/24 1:55
13C3-HFPO-DA	69.3	25-160		10/28/24 1:55

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: GWG-8 | Sampled: 10/9/2024 11:45

Sample ID: 24J2024-15

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	140	10	mg/L	1		Draft Method 1633	10/15/24	10/15/24 12:32	LL

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-7 | Sampled: 10/9/2024 13:55

Sample ID: 24J2024-16

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1	PF-18	Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1	V-05	Draft Method 1633	10/29/24	10/31/24 16:35	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	2.0	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.9	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-7 | Sampled: 10/9/2024 13:55

Sample ID: 24J2024-16

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		Draft Method 1633	10/29/24	10/31/24 16:35	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	81.6		10-130		10/31/24 16:35
13C5-PFPeA	94.4		35-150		10/31/24 16:35
13C5-PFHxA	98.3		55-150		10/31/24 16:35
13C4-PFHpA	97.9		55-150		10/31/24 16:35
13C8-PFOA	91.3		60-140		10/31/24 16:35
13C9-PFNA	105		55-140		10/31/24 16:35
13C6-PFDA	108		50-140		10/31/24 16:35
13C7-PFUnA	95.4		30-140		10/31/24 16:35
13C2-PFDoA	100		10-150		10/31/24 16:35
13C2-PFTeDA	84.3		10-130		10/31/24 16:35
13C3-PFBS	107		55-150		10/31/24 16:35
13C3-PFHxS	96.5		55-150		10/31/24 16:35
13C8-PFOS	103		45-140		10/31/24 16:35
13C2-4:2FTS	109		60-200		10/31/24 16:35
13C2-6:2FTS	104		60-200		10/31/24 16:35
13C2-8:2FTS	81.8		50-200		10/31/24 16:35
13C8-PFOSA	101		30-130		10/31/24 16:35
D3-NMeFOSA	**11.0**	*	15-130	PF-18	10/31/24 16:35
D5-NEtFOSA	**4.62**	*	10-130	PF-18	10/31/24 16:35
D3-NMeFOSAA	99.5		45-200		10/31/24 16:35
D5-NEtFOSAA	112		10-200		10/31/24 16:35
D7-NMeFOSE	51.5		10-150		10/31/24 16:35
D9-NEtFOSE	40.1		10-150		10/31/24 16:35
13C3-HFPO-DA	98.5		25-160		10/31/24 16:35

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Project Location: Saegertown, PA | Sample Description: | Work Order: 24J2024

Date Received: 10/11/2024

Field Sample #: SB-5-7 | Sampled: 10/9/2024 13:55

Sample ID: 24J2024-16

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.7		% Wt	1	H-06	SM 2540G	10/17/24	10/17/24 8:24	MLR

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Sample Extraction Data

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24J2024-01RE1 [SB-5-1]	B390656	6.12	5.00	10/29/24
24J2024-02RE1 [SB-5-1 DUP]	B390656	5.96	5.00	10/29/24
24J2024-03RE1 [SB-8-1]	B390656	6.10	5.00	10/29/24
24J2024-04RE1 [SB-8-9]	B390656	5.65	5.00	10/29/24
24J2024-05RE1 [SB-13-1]	B390656	5.90	5.00	10/29/24
24J2024-06RE1 [SB-13-7]	B390656	5.61	5.00	10/29/24
24J2024-07RE1 [SB-12-1]	B390656	6.11	5.00	10/29/24
24J2024-07RE2 [SB-12-1]	B390656	6.11	5.00	10/29/24
24J2024-08RE1 [SB-12-2]	B390656	6.13	5.00	10/29/24
24J2024-08RE2 [SB-12-2]	B390656	6.13	5.00	10/29/24
24J2024-09RE1 [SB-9-1]	B390656	5.87	5.00	10/29/24
24J2024-10RE1 [SB-9-3]	B390656	5.92	5.00	10/29/24
24J2024-16RE1 [SB-5-7]	B390656	5.63	5.00	10/29/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J2024-11 [GWG-9]	B389300	35.0	10/15/24
24J2024-14 [GWG-5]	B389300	50.0	10/15/24
24J2024-15 [GWG-8]	B389300	50.0	10/15/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24J2024-12 [EB-04]	B389419	50.0	10/15/24
24J2024-13 [FB-01]	B389419	50.0	10/15/24

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 10/15/2024 per NO PREP in Batch B389300

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J2024-11 [GWG-9]	B390041	490	5.00	10/22/24
24J2024-11RE1 [GWG-9]	B390041	490	5.00	10/22/24
24J2024-12 [EB-04]	B390041	495	5.00	10/22/24
24J2024-13 [FB-01]	B390041	483	5.00	10/22/24
24J2024-14 [GWG-5]	B390041	497	5.00	10/22/24
24J2024-14RE1 [GWG-5]	B390041	497	5.00	10/22/24
24J2024-15 [GWG-8]	B390041	495	5.00	10/22/24

Prep Method:% Solids Analytical Method:SM 2540G

Lab Number [Field ID]	Batch	Date
24J2024-01 [SB-5-1]	B389504	10/16/24
24J2024-02 [SB-5-1 DUP]	B389504	10/16/24
24J2024-03 [SB-8-1]	B389504	10/16/24
24J2024-04 [SB-8-9]	B389504	10/16/24
24J2024-05 [SB-13-1]	B389504	10/16/24
24J2024-06 [SB-13-7]	B389504	10/16/24
24J2024-07 [SB-12-1]	B389504	10/16/24
24J2024-08 [SB-12-2]	B389504	10/16/24
24J2024-09 [SB-9-1]	B389504	10/16/24

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Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J2024-10 [SB-9-3]	B389504	10/16/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24J2024-16 [SB-5-7]	B389593	10/17/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
Blank (B390041-BLK1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.98	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.98	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.98	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.98	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.98	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.98	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.98	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.98	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.98	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.98	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.98	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.98	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.98	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.98	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.98	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.98	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.98	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.98	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.98	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.98	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.98	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.98	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.8	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							
Surrogate: 13C4-PFBA	*72.5*		ng/L	97.87		74.1	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
Blank (B390041-BLK1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Surrogate: 13C5-PFPeA	*37.8*		ng/L	48.93		77.3	35-150			
Surrogate: 13C5-PFHxA	*17.9*		ng/L	24.47		73.0	55-150			
Surrogate: 13C4-PFHpA	*19.3*		ng/L	24.47		78.9	55-150			
Surrogate: 13C8-PFOA	*18.3*		ng/L	24.47		74.7	60-140			
Surrogate: 13C9-PFNA	*9.78*		ng/L	12.23		79.9	55-140			
Surrogate: 13C6-PFDA	*10.6*		ng/L	12.23		86.5	50-140			
Surrogate: 13C7-PFUnA	*9.19*		ng/L	12.23		75.1	30-140			
Surrogate: 13C2-PFDoA	*9.94*		ng/L	12.23		81.3	10-150			
Surrogate: 13C2-PFTeDA	*9.83*		ng/L	12.23		80.4	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	24.47		82.4	55-150			
Surrogate: 13C3-PFHxS	*18.5*		ng/L	24.47		75.4	55-150			
Surrogate: 13C8-PFOS	*19.3*		ng/L	24.47		78.8	45-140			
Surrogate: 13C2-4:2FTS	*37.1*		ng/L	48.93		75.9	60-200			
Surrogate: 13C2-6:2FTS	*37.0*		ng/L	48.93		75.5	60-200			
Surrogate: 13C2-8:2FTS	*34.4*		ng/L	48.93		70.4	50-200			
Surrogate: 13C8-PFOSA	*19.0*		ng/L	24.47		77.8	30-130			
Surrogate: D3-NMeFOSA	*15.9*		ng/L	24.47		65.1	15-130			
Surrogate: D5-NEtFOSA	*17.7*		ng/L	24.47		72.2	10-130			
Surrogate: D3-NMeFOSAA	*41.4*		ng/L	48.93		84.6	45-200			
Surrogate: D5-NEtFOSAA	*41.4*		ng/L	48.93		84.7	10-200			
Surrogate: D7-NMeFOSE	*193*		ng/L	244.7		78.8	10-150			
Surrogate: D9-NEtFOSE	*180*		ng/L	244.7		73.6	10-150			
Surrogate: 13C3-HFPO-DA	*72.5*		ng/L	97.87		74.1	25-160			
LCS (B390041-BS1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	115	3.9	ng/L	94.02		122	58-148			
Perfluoropentanoic acid (PFPeA)	57.7	2.0	ng/L	47.01		123	54-152			
Perfluorohexanoic acid (PFHxA)	29.0	0.98	ng/L	23.50		124	55-152			
Perfluoroheptanoic acid (PFHpA)	27.0	0.98	ng/L	23.50		115	54-154			
Perfluorooctanoic acid (PFOA)	29.5	0.98	ng/L	23.50		126	52-161			
Perfluorononanoic acid (PFNA)	25.9	0.98	ng/L	23.50		110	59-149			
Perfluorodecanoic acid (PFDA)	26.5	0.98	ng/L	23.50		113	52-147			
Perfluoroundecanoic acid (PFUnA)	27.1	0.98	ng/L	23.50		115	48-159			
Perfluorododecanoic acid (PFDoA)	29.1	0.98	ng/L	23.50		124	64-142			
Perfluorotridecanoic acid (PFTrDA)	29.7	0.98	ng/L	23.50		126	49-148			
Perfluorotetradecanoic acid (PFTeDA)	28.7	0.98	ng/L	23.50		122	47-161			
Perfluorobutanesulfonic acid (PFBS)	25.2	0.98	ng/L	20.85		121	62-144			
Perfluoropentanesulfonic acid (PFPeS)	28.5	0.98	ng/L	22.12		129	59-151			
Perfluorohexanesulfonic acid (PFHxS)	24.3	0.98	ng/L	21.48		113	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	26.8	0.98	ng/L	22.40		119	55-152			
Perfluorooctanesulfonic acid (PFOS)	25.0	0.98	ng/L	21.81		115	58-149			
Perfluorononanesulfonic acid (PFNS)	26.4	0.98	ng/L	22.61		117	52-148			
Perfluorodecanesulfonic acid (PFDS)	26.9	0.98	ng/L	22.68		119	51-147			
Perfluorododecanesulfonic acid (PFDoS)	24.3	0.98	ng/L	22.80		107	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	122	3.9	ng/L	88.14		138	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	125	3.9	ng/L	89.32		140	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	122	3.9	ng/L	90.26		135	63-152			
Perfluorooctanesulfonamide (PFOSA)	29.6	0.98	ng/L	23.50		126	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	26.0	0.98	ng/L	23.50		111	63-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
LCS (B390041-BS1)				Prepared: 10/22/24 Analyzed: 10/27/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.5	0.98	ng/L	23.50		108	65-139			
N-MeFOSAA (NMeFOSAA)	27.6	0.98	ng/L	23.50		117	58-144			
N-EtFOSAA (NEtFOSAA)	25.3	0.98	ng/L	23.50		108	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	254	9.8	ng/L	235.0		108	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	263	9.8	ng/L	235.0		112	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	104	3.9	ng/L	94.02		111	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	102	3.9	ng/L	88.85		115	68-146			
9Cl-PF3ONS (F53B Minor)	85.8	3.9	ng/L	87.91		97.6	56-156			
11Cl-PF3OUdS (F53B Major)	76.3	3.9	ng/L	88.85		85.9	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	277	9.8	ng/L	235.0		118	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1330	49	ng/L	1175		113	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1250	49	ng/L	1175		107	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	46.7	2.0	ng/L	41.84		112	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	51.8	2.0	ng/L	47.01		110	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	50.9	2.0	ng/L	47.01		108	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	56.9	2.0	ng/L	47.01		121	48-161			
Surrogate: 13C4-PFBA	*72.0*		ng/L	97.94		73.6	10-130			
Surrogate: 13C5-PFPeA	*37.8*		ng/L	48.97		77.3	35-150			
Surrogate: 13C5-PFHxA	*18.0*		ng/L	24.48		73.4	55-150			
Surrogate: 13C4-PFHpA	*19.1*		ng/L	24.48		78.2	55-150			
Surrogate: 13C8-PFOA	*17.7*		ng/L	24.48		72.3	60-140			
Surrogate: 13C9-PFNA	*9.60*		ng/L	12.24		78.4	55-140			
Surrogate: 13C6-PFDA	*9.52*		ng/L	12.24		77.7	50-140			
Surrogate: 13C7-PFUnA	*8.77*		ng/L	12.24		71.6	30-140			
Surrogate: 13C2-PFDoA	*9.04*		ng/L	12.24		73.9	10-150			
Surrogate: 13C2-PFTeDA	*8.91*		ng/L	12.24		72.8	10-130			
Surrogate: 13C3-PFBS	*20.3*		ng/L	24.48		83.1	55-150			
Surrogate: 13C3-PFHxS	*19.1*		ng/L	24.48		77.9	55-150			
Surrogate: 13C8-PFOS	*19.7*		ng/L	24.48		80.5	45-140			
Surrogate: 13C2-4:2FTS	*34.9*		ng/L	48.97		71.3	60-200			
Surrogate: 13C2-6:2FTS	*34.5*		ng/L	48.97		70.4	60-200			
Surrogate: 13C2-8:2FTS	*31.6*		ng/L	48.97		64.6	50-200			
Surrogate: 13C8-PFOSA	*18.8*		ng/L	24.48		76.8	30-130			
Surrogate: D3-NMeFOSA	*15.8*		ng/L	24.48		64.6	15-130			
Surrogate: D5-NEtFOSA	*16.9*		ng/L	24.48		69.1	10-130			
Surrogate: D3-NMeFOSAA	*41.6*		ng/L	48.97		85.0	45-200			
Surrogate: D5-NEtFOSAA	*41.5*		ng/L	48.97		84.7	10-200			
Surrogate: D7-NMeFOSE	*181*		ng/L	244.8		74.1	10-150			
Surrogate: D9-NEtFOSE	*170*		ng/L	244.8		69.5	10-150			
Surrogate: 13C3-HFPO-DA	*73.0*		ng/L	97.94		74.5	25-160			
MRL Check (B390041-MRL1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorobutanoic acid (PFBA)	9.99	3.9	ng/L	7.860		127	44-157			
Perfluoropentanoic acid (PFPeA)	4.91	2.0	ng/L	3.930		125	57-148			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
MRL Check (B390041-MRL1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Perfluorohexanoic acid (PFHxA)	2.74	0.98	ng/L	1.965		139	62-149			
Perfluoroheptanoic acid (PFHpA)	2.42	0.98	ng/L	1.965		123	56-150			
Perfluorooctanoic acid (PFOA)	2.59	0.98	ng/L	1.965		132	57-161			
Perfluorononanoic acid (PFNA)	2.27	0.98	ng/L	1.965		116	53-157			
Perfluorodecanoic acid (PFDA)	2.23	0.98	ng/L	1.965		114	43-158			
Perfluoroundecanoic acid (PFUnA)	2.39	0.98	ng/L	1.965		122	50-155			
Perfluorododecanoic acid (PFDoA)	2.58	0.98	ng/L	1.965		131	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.63	0.98	ng/L	1.965		134	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.47	0.98	ng/L	1.965		126	52-156			
Perfluorobutanesulfonic acid (PFBS)	2.08	0.98	ng/L	1.743		120	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.62	0.98	ng/L	1.849		142	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.46	0.98	ng/L	1.796		137	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.60	0.98	ng/L	1.873		139	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.54	0.98	ng/L	1.824		139	43-162			
Perfluorononanesulfonic acid (PFNS)	2.45	0.98	ng/L	1.890		130	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.47	0.98	ng/L	1.896		130	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.37	0.98	ng/L	1.906		124	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.5	3.9	ng/L	7.369		142	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.9	3.9	ng/L	7.467		146	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.8	3.9	ng/L	7.546		143	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.52	0.98	ng/L	1.965		128	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.75	0.98	ng/L	1.965		140	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.34	0.98	ng/L	1.965		119	49-156			
N-MeFOSAA (NMeFOSAA)	2.21	0.98	ng/L	1.965		112	32-160			
N-EtFOSAA (NEtFOSAA)	2.27	0.98	ng/L	1.965		116	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	25.1	9.8	ng/L	19.65		128	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	24.9	9.8	ng/L	19.65		127	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.22	3.9	ng/L	7.860		117	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.16	3.9	ng/L	7.428		110	61-148			
9Cl-PF3ONS (F53B Minor)	7.04	3.9	ng/L	7.349		95.7	44-167			
11Cl-PF3OUdS (F53B Major)	6.03	3.9	ng/L	7.428		81.2	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	23.1	9.8	ng/L	19.65		118	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	112	49	ng/L	98.25		114	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	106	49	ng/L	98.25		108	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.26	2.0	ng/L	3.498		122	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.46	2.0	ng/L	3.930		113	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.43	2.0	ng/L	3.930		113	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.03	2.0	ng/L	3.930		128	47-160			
Surrogate: 13C4-PFBA	*71.4*		ng/L	98.25		72.7	10-130			
Surrogate: 13C5-PFPeA	*37.5*		ng/L	49.13		76.4	35-150			
Surrogate: 13C5-PFHxA	*17.1*		ng/L	24.56		69.5	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390041 - Draft Method 1633										
MRL Check (B390041-MRL1)				Prepared: 10/22/24 Analyzed: 10/27/24						
Surrogate: 13C4-PFHpA	*18.6*		ng/L	24.56		75.9	55-150			
Surrogate: 13C8-PFOA	*17.7*		ng/L	24.56		71.9	60-140			
Surrogate: 13C9-PFNA	*9.68*		ng/L	12.28		78.8	55-140			
Surrogate: 13C6-PFDA	*9.89*		ng/L	12.28		80.6	50-140			
Surrogate: 13C7-PFUnA	*8.79*		ng/L	12.28		71.6	30-140			
Surrogate: 13C2-PFDoA	*9.12*		ng/L	12.28		74.3	10-150			
Surrogate: 13C2-PFTeDA	*9.22*		ng/L	12.28		75.1	10-130			
Surrogate: 13C3-PFBS	*20.0*		ng/L	24.56		81.6	55-150			
Surrogate: 13C3-PFHxS	*18.2*		ng/L	24.56		74.2	55-150			
Surrogate: 13C8-PFOS	*19.2*		ng/L	24.56		78.3	45-140			
Surrogate: 13C2-4:2FTS	*36.7*		ng/L	49.13		74.7	60-200			
Surrogate: 13C2-6:2FTS	*36.5*		ng/L	49.13		74.4	60-200			
Surrogate: 13C2-8:2FTS	*33.1*		ng/L	49.13		67.4	50-200			
Surrogate: 13C8-PFOSA	*19.3*		ng/L	24.56		78.6	30-130			
Surrogate: D3-NMeFOSA	*15.8*		ng/L	24.56		64.1	15-130			
Surrogate: D5-NEtFOSA	*17.9*		ng/L	24.56		72.7	10-130			
Surrogate: D3-NMeFOSAA	*42.9*		ng/L	49.13		87.4	45-200			
Surrogate: D5-NEtFOSAA	*41.3*		ng/L	49.13		84.1	10-200			
Surrogate: D7-NMeFOSE	*188*		ng/L	245.6		76.5	10-150			
Surrogate: D9-NEtFOSE	*176*		ng/L	245.6		71.7	10-150			
Surrogate: 13C3-HFPO-DA	*74.7*		ng/L	98.25		76.0	25-160			
Batch B390656 - Draft Method 1633										
Blank (B390656-BLK1)				Prepared: 10/29/24 Analyzed: 10/31/24						
Perfluorobutanoic acid (PFBA)	ND	0.77	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.77	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.77	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.77	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.19	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390656 - Draft Method 1633										
Blank (B390656-BLK1)				Prepared: 10/29/24 Analyzed: 10/31/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1.9	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.77	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.77	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.77	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.77	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.9	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	9.7	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	9.7	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	*7.12*		µg/kg wet	9.681		73.5	10-130			
Surrogate: 13C5-PFPeA	*4.01*		µg/kg wet	4.840		82.9	35-150			
Surrogate: 13C5-PFHxA	*1.97*		µg/kg wet	2.420		81.2	55-150			
Surrogate: 13C4-PFHpA	*2.13*		µg/kg wet	2.420		88.0	55-150			
Surrogate: 13C8-PFOA	*1.85*		µg/kg wet	2.420		76.4	60-140			
Surrogate: 13C9-PFNA	*1.02*		µg/kg wet	1.210		84.5	55-140			
Surrogate: 13C6-PFDA	*1.10*		µg/kg wet	1.210		90.9	50-140			
Surrogate: 13C7-PFUnA	*0.912*		µg/kg wet	1.210		75.4	30-140			
Surrogate: 13C2-PFDoA	*1.01*		µg/kg wet	1.210		83.7	10-150			
Surrogate: 13C2-PFTeDA	*0.921*		µg/kg wet	1.210		76.1	10-130			
Surrogate: 13C3-PFBS	*2.22*		µg/kg wet	2.420		91.8	55-150			
Surrogate: 13C3-PFHxS	*2.02*		µg/kg wet	2.420		83.6	55-150			
Surrogate: 13C8-PFOS	*2.02*		µg/kg wet	2.420		83.3	45-140			
Surrogate: 13C2-4:2FTS	*4.53*		µg/kg wet	4.840		93.6	60-200			
Surrogate: 13C2-6:2FTS	*4.52*		µg/kg wet	4.840		93.4	60-200			
Surrogate: 13C2-8:2FTS	*3.69*		µg/kg wet	4.840		76.2	50-200			
Surrogate: 13C8-PFOSA	*2.01*		µg/kg wet	2.420		82.9	30-130			
Surrogate: D3-NMeFOSA	*1.25*		µg/kg wet	2.420		51.5	15-130			
Surrogate: D5-NEtFOSA	*1.29*		µg/kg wet	2.420		53.3	10-130			
Surrogate: D3-NMeFOSAA	*4.25*		µg/kg wet	4.840		87.9	45-200			
Surrogate: D5-NEtFOSAA	*4.47*		µg/kg wet	4.840		92.3	10-200			
Surrogate: D7-NMeFOSE	*17.4*		µg/kg wet	24.20		72.0	10-150			
Surrogate: D9-NEtFOSE	*17.0*		µg/kg wet	24.20		70.2	10-150			
Surrogate: 13C3-HFPO-DA	*8.37*		µg/kg wet	9.681		86.5	25-160			
LCS (B390656-BS1)				Prepared: 10/29/24 Analyzed: 10/31/24						
Perfluorobutanoic acid (PFBA)	8.40	0.78	µg/kg wet	9.306		90.2	58-148			
Perfluoropentanoic acid (PFPeA)	4.22	0.39	µg/kg wet	4.653		90.7	54-152			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390656 - Draft Method 1633										
LCS (B390656-BS1)				Prepared: 10/29/24 Analyzed: 10/31/24						
Perfluorohexanoic acid (PFHxA)	2.10	0.19	µg/kg wet	2.326		90.4	55-152			
Perfluoroheptanoic acid (PFHpA)	2.02	0.19	µg/kg wet	2.326		86.9	54-154			
Perfluorooctanoic acid (PFOA)	2.16	0.19	µg/kg wet	2.326		92.9	52-161			
Perfluorononanoic acid (PFNA)	1.80	0.19	µg/kg wet	2.326		77.2	59-149			
Perfluorodecanoic acid (PFDA)	1.89	0.19	µg/kg wet	2.326		81.1	52-147			
Perfluoroundecanoic acid (PFUnA)	2.10	0.19	µg/kg wet	2.326		90.2	48-159			
Perfluorododecanoic acid (PFDoA)	2.29	0.19	µg/kg wet	2.326		98.5	64-142			
Perfluorotridecanoic acid (PFTrDA)	2.22	0.19	µg/kg wet	2.326		95.3	49-148			
Perfluorotetradecanoic acid (PFTeDA)	2.04	0.19	µg/kg wet	2.326		87.8	47-161			
Perfluorobutanesulfonic acid (PFBS)	1.76	0.19	µg/kg wet	2.064		85.4	62-144			
Perfluoropentanesulfonic acid (PFPeS)	2.11	0.19	µg/kg wet	2.189		96.3	59-151			
Perfluorohexanesulfonic acid (PFHxS)	1.86	0.19	µg/kg wet	2.126		87.7	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	2.06	0.19	µg/kg wet	2.217		93.1	55-152			
Perfluorooctanesulfonic acid (PFOS)	1.94	0.19	µg/kg wet	2.159		89.7	58-149			
Perfluorononanesulfonic acid (PFNS)	1.98	0.19	µg/kg wet	2.238		88.6	52-148			
Perfluorodecanesulfonic acid (PFDS)	2.09	0.19	µg/kg wet	2.245		93.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	1.65	0.19	µg/kg wet	2.257		73.3	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.32	0.78	µg/kg wet	8.724		95.4	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.78	0.78	µg/kg wet	8.841		99.3	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.79	0.78	µg/kg wet	8.934		98.4	63-152			
Perfluorooctanesulfonamide (PFOSA)	2.15	0.19	µg/kg wet	2.326		92.2	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.92	0.19	µg/kg wet	2.326		82.4	63-145			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.82	0.19	µg/kg wet	2.326		78.1	65-139			
N-MeFOSAA (NMeFOSAA)	2.08	0.19	µg/kg wet	2.326		89.4	58-144			
N-EtFOSAA (NEtFOSAA)	1.79	0.19	µg/kg wet	2.326		76.8	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	19.1	1.9	µg/kg wet	23.26		82.2	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	19.4	1.9	µg/kg wet	23.26		83.3	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.86	0.78	µg/kg wet	9.306		106	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.42	0.78	µg/kg wet	8.794		107	68-146			
9Cl-PF3ONS (F53B Minor)	8.25	0.78	µg/kg wet	8.701		94.8	56-156			
11Cl-PF3OUdS (F53B Major)	6.55	0.78	µg/kg wet	8.794		74.4	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	20.4	1.9	µg/kg wet	23.26		87.5	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	92.7	9.7	µg/kg wet	116.3		79.7	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	89.3	9.7	µg/kg wet	116.3		76.8	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.99	0.39	µg/kg wet	4.141		96.3	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.30	0.39	µg/kg wet	4.653		92.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.75	0.39	µg/kg wet	4.653		102	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.99	0.39	µg/kg wet	4.653		107	48-161			
Surrogate: 13C4-PFBA	*7.39*		µg/kg wet	9.694		76.2	10-130			
Surrogate: 13C5-PFPeA	*4.04*		µg/kg wet	4.847		83.4	35-150			
Surrogate: 13C5-PFHxA	*2.09*		µg/kg wet	2.423		86.4	55-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390656 - Draft Method 1633										
LCS (B390656-BS1)				Prepared: 10/29/24 Analyzed: 10/31/24						
Surrogate: 13C4-PFHpA	*2.14*		µg/kg wet	2.423		88.3	55-150			
Surrogate: 13C8-PFOA	*2.15*		µg/kg wet	2.423		88.8	60-140			
Surrogate: 13C9-PFNA	*1.16*		µg/kg wet	1.212		96.1	55-140			
Surrogate: 13C6-PFDA	*1.14*		µg/kg wet	1.212		94.2	50-140			
Surrogate: 13C7-PFUnA	*0.938*		µg/kg wet	1.212		77.4	30-140			
Surrogate: 13C2-PFDoA	*0.922*		µg/kg wet	1.212		76.1	10-150			
Surrogate: 13C2-PFTeDA	*0.923*		µg/kg wet	1.212		76.2	10-130			
Surrogate: 13C3-PFBS	*2.44*		µg/kg wet	2.423		101	55-150			
Surrogate: 13C3-PFHxS	*2.14*		µg/kg wet	2.423		88.2	55-150			
Surrogate: 13C8-PFOS	*2.19*		µg/kg wet	2.423		90.4	45-140			
Surrogate: 13C2-4:2FTS	*4.68*		µg/kg wet	4.847		96.6	60-200			
Surrogate: 13C2-6:2FTS	*4.33*		µg/kg wet	4.847		89.3	60-200			
Surrogate: 13C2-8:2FTS	*3.60*		µg/kg wet	4.847		74.3	50-200			
Surrogate: 13C8-PFOSA	*2.08*		µg/kg wet	2.423		85.9	30-130			
Surrogate: D3-NMeFOSA	*1.38*		µg/kg wet	2.423		57.0	15-130			
Surrogate: D5-NEtFOSA	*1.35*		µg/kg wet	2.423		55.8	10-130			
Surrogate: D3-NMeFOSAA	*4.52*		µg/kg wet	4.847		93.2	45-200			
Surrogate: D5-NEtFOSAA	*4.69*		µg/kg wet	4.847		96.8	10-200			
Surrogate: D7-NMeFOSE	*17.4*		µg/kg wet	24.23		71.9	10-150			
Surrogate: D9-NEtFOSE	*16.3*		µg/kg wet	24.23		67.4	10-150			
Surrogate: 13C3-HFPO-DA	*8.40*		µg/kg wet	9.694		86.7	25-160			
MRL Check (B390656-MRL1)				Prepared: 10/29/24 Analyzed: 10/31/24						
Perfluorobutanoic acid (PFBA)	0.730	0.78	µg/kg wet	0.7756		94.1	44-157			
Perfluoropentanoic acid (PFPeA)	0.384	0.39	µg/kg wet	0.3878		99.1	57-148			
Perfluorohexanoic acid (PFHxA)	0.194	0.19	µg/kg wet	0.1939		100	62-149			
Perfluoroheptanoic acid (PFHpA)	0.180	0.19	µg/kg wet	0.1939		92.8	56-150			
Perfluorooctanoic acid (PFOA)	0.198	0.19	µg/kg wet	0.1939		102	57-161			
Perfluorononanoic acid (PFNA)	0.160	0.19	µg/kg wet	0.1939		82.5	53-157			
Perfluorodecanoic acid (PFDA)	0.196	0.19	µg/kg wet	0.1939		101	43-158			
Perfluoroundecanoic acid (PFUnA)	0.187	0.19	µg/kg wet	0.1939		96.4	50-155			
Perfluorododecanoic acid (PFDoA)	0.199	0.19	µg/kg wet	0.1939		103	60-141			
Perfluorotridecanoic acid (PFTrDA)	0.204	0.19	µg/kg wet	0.1939		105	52-140			
Perfluorotetradecanoic acid (PFTeDA)	0.192	0.19	µg/kg wet	0.1939		99.0	52-156			
Perfluorobutanesulfonic acid (PFBS)	0.159	0.19	µg/kg wet	0.1720		92.4	63-145			
Perfluoropentanesulfonic acid (PFPeS)	0.183	0.19	µg/kg wet	0.1825		100	58-144			
Perfluorohexanesulfonic acid (PFHxS)	0.185	0.19	µg/kg wet	0.1772		104	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	0.179	0.19	µg/kg wet	0.1848		96.7	51-150			
Perfluorooctanesulfonic acid (PFOS)	0.203	0.19	µg/kg wet	0.1799		113	43-162			
Perfluorononanesulfonic acid (PFNS)	0.170	0.19	µg/kg wet	0.1865		91.1	46-151			
Perfluorodecanesulfonic acid (PFDS)	0.183	0.19	µg/kg wet	0.1871		97.5	50-144			
Perfluorododecanesulfonic acid (PFDoS)	0.159	0.19	µg/kg wet	0.1881		84.6	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.805	0.78	µg/kg wet	0.7272		111	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.770	0.78	µg/kg wet	0.7369		104	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.764	0.78	µg/kg wet	0.7446		103	46-165			
Perfluorooctanesulfonamide (PFOSA)	0.195	0.19	µg/kg wet	0.1939		100	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.212	0.19	µg/kg wet	0.1939		109	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.186	0.19	µg/kg wet	0.1939		96.0	49-156			
N-MeFOSAA (NMeFOSAA)	0.247	0.19	µg/kg wet	0.1939		127	32-160			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B390656 - Draft Method 1633										
MRL Check (B390656-MRL1)				Prepared: 10/29/24 Analyzed: 10/31/24						
N-EtFOSAA (NEtFOSAA)	0.163	0.19	µg/kg wet	0.1939		84.1	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	1.61	1.9	µg/kg wet	1.939		83.0	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	1.72	1.9	µg/kg wet	1.939		88.9	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.842	0.78	µg/kg wet	0.7756		109	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.726	0.78	µg/kg wet	0.7330		99.0	61-148			
9Cl-PF3ONS (F53B Minor)	0.660	0.78	µg/kg wet	0.7252		91.0	44-167			
11Cl-PF3OUdS (F53B Major)	0.543	0.78	µg/kg wet	0.7330		74.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.55	1.9	µg/kg wet	1.939		80.2	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	7.67	9.7	µg/kg wet	9.696		79.1	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	7.74	9.7	µg/kg wet	9.696		79.8	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.301	0.39	µg/kg wet	0.3452		87.2	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.318	0.39	µg/kg wet	0.3878		82.1	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.351	0.39	µg/kg wet	0.3878		90.6	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.384	0.39	µg/kg wet	0.3878		98.9	47-160			
Surrogate: 13C4-PFBA	*7.64*		µg/kg wet	9.696		78.8	10-130			
Surrogate: 13C5-PFPeA	*4.39*		µg/kg wet	4.848		90.6	35-150			
Surrogate: 13C5-PFHxA	*2.25*		µg/kg wet	2.424		92.8	55-150			
Surrogate: 13C4-PFHpA	*2.31*		µg/kg wet	2.424		95.3	55-150			
Surrogate: 13C8-PFOA	*2.22*		µg/kg wet	2.424		91.6	60-140			
Surrogate: 13C9-PFNA	*1.19*		µg/kg wet	1.212		98.3	55-140			
Surrogate: 13C6-PFDA	*1.17*		µg/kg wet	1.212		96.9	50-140			
Surrogate: 13C7-PFUnA	*1.03*		µg/kg wet	1.212		84.8	30-140			
Surrogate: 13C2-PFDoA	*1.10*		µg/kg wet	1.212		91.1	10-150			
Surrogate: 13C2-PFTeDA	*1.09*		µg/kg wet	1.212		89.6	10-130			
Surrogate: 13C3-PFBS	*2.60*		µg/kg wet	2.424		107	55-150			
Surrogate: 13C3-PFHxS	*2.34*		µg/kg wet	2.424		96.7	55-150			
Surrogate: 13C8-PFOS	*2.34*		µg/kg wet	2.424		96.7	45-140			
Surrogate: 13C2-4:2FTS	*5.02*		µg/kg wet	4.848		103	60-200			
Surrogate: 13C2-6:2FTS	*4.95*		µg/kg wet	4.848		102	60-200			
Surrogate: 13C2-8:2FTS	*4.02*		µg/kg wet	4.848		83.0	50-200			
Surrogate: 13C8-PFOSA	*2.30*		µg/kg wet	2.424		94.7	30-130			
Surrogate: D3-NMeFOSA	*1.22*		µg/kg wet	2.424		50.4	15-130			
Surrogate: D5-NEtFOSA	*1.31*		µg/kg wet	2.424		53.9	10-130			
Surrogate: D3-NMeFOSAA	*4.88*		µg/kg wet	4.848		101	45-200			
Surrogate: D5-NEtFOSAA	*5.14*		µg/kg wet	4.848		106	10-200			
Surrogate: D7-NMeFOSE	*20.1*		µg/kg wet	24.24		82.9	10-150			
Surrogate: D9-NEtFOSE	*18.5*		µg/kg wet	24.24		76.1	10-150			
Surrogate: 13C3-HFPO-DA	*8.47*		µg/kg wet	9.696		87.3	25-160			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389300 - Draft Method 1633										
Blank (B389300-BLK1)				Prepared & Analyzed: 10/15/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B389300-BS1)				Prepared & Analyzed: 10/15/24						
Total Suspended Solids	216	5.0	mg/L	200.0		108	51.5-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
D-04	Sample extracted at a dilution due to insufficient volume provided.
H-06	Sample was extracted past the recommended holding time.
PF-18	Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.
PF-22	Qualifier ion ratio >150% of associated calibration. Detection is suspect.
S-29	Extracted Internal Standard is outside of control limits.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV
Perfluorotetradecanoic acid (PFTeDA)	NH-P,PA,WV
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,WV
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,WV
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,WV
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,WV
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,PA,WV
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV
N-EtFOSAA (NEtFOSAA)	NH-P,PA,WV
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,WV
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,WV
9Cl-PF3ONS (F53B Minor)	NH-P,PA,WV
11Cl-PF3OUdS (F53B Major)	NH-P,PA,WV
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,WV
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,PA,WV
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT

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A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025

10/9/2024 RF

Pace Phone: 413-525-2332

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Report To: Michael Baker Intl
Address: 100 Airside Dr
Phone: 412 269 6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 109432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

Turnaround Time: 7-Day ☐ 10-Day ☒ (PFAS 15 Day (std) ☐) Due Date:
1-Day ☐ 3-Day ☐ 2-Day ☐ 4-Day ☐
Formats: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Field Filtered ○ Lab to Filter ○
Field Filtered ○ Lab to Filter ○
PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Collection Date/Time	Collection Date/Time	Composites	[1]Matrix Code	Composite Grab	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
1	SB-5-1	10/9/24	1345	G	S				1			X
2	SB-5-1 Dup		1350									
3	SB-8-1		1430									
4	SB-8-9		1435									
5	SB-13-1		1510									
6	SB-13-7		1515									
7	SB-12-1		1600									
8	SB-12-2		1605									
9	SB-9-1		1640									
10	SB-9-3		1645									

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/10/24 1318	Client Comments:
Received by: (signature) Matt Pace	Date/Time: 10/10/24 1320	
Relinquished by: (signature) Matt Pace	Date/Time: 10/10/24 1320	
Received by: (signature)	Date/Time: 10/11/24 1045	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☑ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
Chromatogram ☐
AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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24J2024RF

Pace

Phone: 413-525-2332

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 2 of 2

ANALYSIS REQUESTED

Company Name: Michael Baker Intl
Address: 100 Airside Dr 15108
Phone: 4122696300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula

7-Day ☐ 10-Day ☒ Due Date:
PFAS 15-Day (std) ☐
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

○ Field Filtered
○ Lab to Filter
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

PFAS EPA 1633

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
11	GWG-9	10/9/24	1730	G	GW				3			X
12	EB-04	10/10/24	0830		W				3			1
13	FB-01		0900		W				1			
14	GWG-5		1025		GW				3			
15	GWG-8		1145		GW				3			4

Relinquished by: (signature) — Date/Time: 10/10/24 1318
Received by: (signature) — Date/Time: 10/10/24 1320
Relinquished by: (signature) — Date/Time: 10/10/24 1600
Received by: (signature) 3.6 — Date/Time: 10/11/24 1045
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments:

MA ☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
NY ☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

HELAC and NELAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Preservation Code
Container Type
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project Saegertown PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location Saegertown, PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time EGR 01/11/24 1045

Back-Sheet By / Date / Time STH 01/11/24 1550

Temperature Method Gun # 6

WV samples: Yes (see note*) / (No) follow normal procedure)

Temp ☒ < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

Received extra Sample not on COC SB-5-7 @ 1355 10/9

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Qualtrax ID: 120836

Qualtrax ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample		Soils Jars (Circle Amb/Clear)				Ambers								Plastics										VOA Vials							Other / Fill in			
						1 Liter			250mL				100mL	1 Liter		500mL		250mL																	
		16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact	125ml/P/4Sfc			
1														1																1			
2														1																			
3														1																			
4														1																			
5														1																			
6														1																			
7														1																			
8														1																			
9														1																			
10														1																			
11															2															1			
12															2															1			
13															1																		
14															2															1			
15															2															1			
16														1																			
17																																	
18																																	
19																																	
20																																	

ATTACHMENT C

Groundwater Grab Boring Logs

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-1**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/7/24	0.0 - 35.0	Rain, 50s	26.8
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
	0.5					**0.0 - 0.5** TOPSOIL, roots, dk brown, loose, moist	
1					0.0	**0.5 - 4.5** SILT and fine SAND, some f/m angular gravel, trace rock frags and clay, brown, medium stiff, moist	
2		DM-1	3.0 60%		0.0		
3					0.0		
4	4.5				0.0		
5	5.0				0.0	**4.5 - 6.0** SILT, little fine sand, trace fine rounded gravel, dk brown, medium stiff, moist	
6	6.0				0.0		
7		DM-2	3.0 60%		0.0	**6.0 - 19.0** SILT and f/m rounded GRAVEL, little fine sand, trace large gravel and rock frags, medium stiff to loose, moist	
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-1 SHEET 1 OF 3

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-1**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**6.0 - 19.0** SILT and f/m rounded GRAVEL, little fine sand, trace large gravel and rock frags, medium stiff to loose, moist	
12		2.8		0.0		
13	DM-3	56%		0.0		
14				0.0		
15	15.0			0.0		
16				0.0		
17		3.0		0.0		
18	DM-4	60%		0.0		
19	19.0			0.0		
20	20.0			0.0	**19.0 - 20.5** Fine SAND, little rounded gravel, trace silt, brown, medium dense, moist	
21	20.5			0.0	**20.5 - 29.0** Fine SAND and f/m rounded GRAVEL, little silt, brown, medium dense, moist	
22		3.0		0.0		
23	DM-5	60%		0.0		
24				0.0		
25	25.0			0.0		
26				0.0		
27		2.8		0.0		
28	DM-6	56%		0.0		
29	29.0			0.0	wet at 29.0'	
30	30.0			0.0	**29.0 - 35.0** Fine SAND and f/m rounded GRAVEL, little silt, brown, medium dense, wet	
					Continued on Sheet 3	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-1 SHEET 2 OF 3

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-1**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
31	DM-7	2.5 50%		0.0	**29.0 - 35.0** Fine SAND and f/m rounded GRAVEL, little silt, brown, medium dense, wet	
32				0.0		
33				0.0		
34				0.0		
35				0.0		
36					End of Boring at 35.0'	
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-1 SHEET 3 OF 3

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-2**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/8/24	0.0 - 20.0	Sunny, 50s	14.1
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	2.3 46%		0.0	**0.0 - 0.5** TOPSOIL, roots, dk brown, loose, moist	
2					0.0	**0.5 - 5.0** SILT and f/m GRAVEL, some fine sand, little clay, dk brown to brown, medium stiff to loose, moist	
3					0.0		
4					0.0		
5	5.0				0.0		
6	6.0	DM-2	2.0 40%		0.0	**5.0 - 13.0** SILT and f/m GRAVEL, some fine sand, little clay, trace large rock frags and brick frags, brown, loose, moist	
7					0.0		
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-2 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-2**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**5.0 - 13.0** SILT and f/m GRAVEL, some fine sand, little clay, trace large rock frags and brick frags, brown, loose, moist	
12		1.6		0.0		
13	DM-3	32%		0.0		
13.0					**13.0 - 14.0** Fine to coarse SAND and fine rounded GRAVEL (poorly sorted), trace silt, brown, medium dense, moist to wet	
14	14.0			0.0		
14.5					wet at 14.0'	
15	15.0			0.0	**14.0 - 14.5** Fine to coarse rounded GRAVEL (poorly sorted), little silt, trace fine sand, brown, loose, wet	
16				0.0		
17		4.5		0.0	**14.5 - 15.5** Clayey SILT, brown, medium stiff, wet	
18	DM-4	90%		0.0		
19				0.0	**15.0 - 20.0** Clayey SILT, gray, soft, wet	
20	20.0			0.0		
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-2 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-3**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/8/24	0.0 - 25.0	Sunny, 60s	20.4
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
	0.5					**0.0 - 0.5** Fine SAND and GRAVEL, brown, loose, moist	
1	1.0				0.0	**0.5 - 1.0** Silty CLAY, dk brown, med. stiff, moist	
2		DM-1	3.5 70%		0.0	**1.0 - 6.0** Silty CLAY, orangish-brown, medium stiff, moist	
3					0.0		
4					0.0		
5	5.0				0.0		
6	6.0				0.0		
7		DM-2	3.2 64%		0.0	**6.0 - 10.0** SILT and f/m rounded GRAVEL, little rock frags, trace fine sand, brown, loose, moist to wet	
8					0.0		
9					0.0	wet at 9.0'	
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-3 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-3**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
10.5					**10.0 - 10.5** Fine SAND, some rock frags, yellow, loose, moist	
11				0.0		
					10.5 - 20.0 SILT, coarse SAND, and f/m GRAVEL (poorly sorted), brown, medium dense, moist to wet	
12		2.5		0.0		
	DM-3	50%				
13				0.0		
14				0.0		
15				0.0		
15.0						
16				0.0		
17		2.0		0.0		
	DM-4	40%				
18				0.0	wet from 18.0 - 20.0'	
19				0.0		
20				0.0		
20.0						
					20.0 - 25.0 Saturated sample liner	
21		No		0.0	No Recovery	
		Recovery				
22		0.0		0.0		
	DM-5	0%				
23				0.0		
24				0.0		
25				0.0		
25.0						
					End of Boring at 25.0'	
26				0.0		
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-3 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-4**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/7/24	0.0 - 25.0	Rain, 50s	23.6
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
	0.5					**0.0 - 0.5** TOPSOIL, roots, dk brown, loose, moist	
1					0.0	**0.5 - 16.0** SILT and fine SAND, some f/m round/angular gravel, brown, medium dense, moist	
2		DM-1	2.0 40%		0.0		
3					0.0		
4					0.0		
5	5.0				0.0		
6					0.0		
7		DM-2	2.0 40%		0.0		
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-4 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-4**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	same as above	
12		2.6		0.0		
	DM-3	52%				
13				0.0		
14				0.0		
15 15.0				0.0		
16 16.0				0.0		
				0.0	**16.0 - 17.0** CLAY and ROCK frags, brown,	
17 17.0		2.4		0.0	medium stiff, moist	
	DM-4	48%			**17.0 - 23.0** Fine SAND, some rounded gravel and	
18				0.0	silt, medium dense, moist	
19				0.0		
20 20.0				0.0		
21				0.0		
22		2.8		0.0		
	DM-5	56%				
23 23.0				0.0		
				0.0	**23.0 - 25.0** Fine SAND and f/m GRAVEL, little	
24				0.0	silt, dark brown, medium dense, wet	
					wet at 23.0'	
25 25.0				0.0		
				0.0	End of Boring at 25.0'	
26				0.0		
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-4 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-5**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/10/24	0.0 - 25.0	Sunny, 40s	20.2
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5	DM-1	4.5 90%		0.0	**0.0 - 0.5** TOPSOIL, roots, trace f. gravel, dk brown, soft to medium stiff, moist	
2					0.0	**0.5 - 3.0** Silty CLAY, orangish-brown, medium stiff, moist	
3	3.0				0.0		
4					0.0	**3.0 - 12.5** SILT and fine rounded GRAVEL, trace fine sand and rock frags, brown, medium stiff/dense, dry to moist	
5	5.0				0.0		
6		DM-2	3.7 74%		0.0		
7					0.0		
8					0.0		
9					0.0		
10	10.0				0.0		
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-5 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-5**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**3.0 - 12.5** SILT and fine rounded GRAVEL, trace fine SAND and rock frags, brown, medium stiff/dense, dry to moist	
12		3.8		0.0		
12.5	DM-3	76%				
13 12.7				0.0	**12.5 - 12.7** Lense of fine black/dk brown sand	
14				0.0	**12.7 - 25.0** SILT, coarse SAND, and f/m GRAVEL, trace fine sand and cobbles, brown,	
15 15.0				0.0	medium dense to loose, wet	
16				0.0		
17		2.0		0.0		
	DM-4	40%				
18				0.0		
19				0.0		
20 20.0				0.0	wet at 20.0'	
21				0.0		
22		1.0		0.0		
	DM-5	20%				
23 23.0				0.0		
24				0.0	Less silt from 24.0 - 25.0'	
25 25.0				0.0		
26				0.0	End of Boring at 25.0'	
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-5 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-8**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/10/24	0.0 - 25.0	Sunny, 40s	18.0
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	0.5				0.0	**0.0 - 1.5** TOPSOIL, roots, trace f. gravel, dk brown, soft to medium stiff, moist	
2	1.5		3.5		0.0	**1.5 - 2.5** Silty CLAY, orangish-brown, medium stiff, moist	
3	2.5	DM-1	70%		0.0	**2.5 - 7.0** SILT and fine rounded GRAVEL, trace fine sand and rock frags, brown,	
4					0.0	medium stiff/dense, dry to moist	
5	5.0				0.0		
6					0.0		
7	7.0		3.0		0.0		
8		DM-2	60%		0.0	**7.0 - 10.0** SILT and fine SAND, some f/m gravel, brown, medium dense, moist to wet	
9					0.0		
10	10.0				0.0	wet at 10.0'	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-8 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-8**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**10.0 - 25.0** SILT, coarse SAND, and f/m rounded GRAVEL, trace fine sand, brown, medium dense to loose, wet	
12	DM-3	2.0 40%		0.0		
13				0.0		
14				0.0		
15 15.0				0.0		
16	DM-4	2.5 50%		0.0		
17				0.0		
18				0.0		
19				0.0		
20 20.0				0.0		
21	DM-5	2.0 40%		0.0		
22				0.0		
23				0.0		
24				0.0		
25 25.0				0.0		
26				0.0	End of Boring at 25.0'	
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-8 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-12**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/3/24	0.0 - 25.0	Sunny, 60s	21.0
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					0.0	**0.0 - 1.5** TOPSOIL, roots, dk brown, soft, loose, moist	
	1.5						
2			3.0		0.0	**1.5 - 8.0** Silty CLAY and f/m angular GRAVEL some fine sand, brown, medium dense, moist	
3		DM-1	60%		0.0		
4					0.0		
5	5.0				0.0		
6					0.0		
7			2.5		0.0		
		DM-2	50%				
8	8.0				0.0		
9					0.0	**8.0 - 15.0** SILT and f/m rounded GRAVEL, some large gravel, little fine sand, trace clay, brown, medium dense/loose, moist to wet	
10	10.0				0.0	wet at 15.0'	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-12 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-12**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**8.0 - 15.0** SILT and f/m rounded GRAVEL, some large gravel, little fine sand, trace clay, brown, medium dense/loose, moist to wet	
12		2.3		0.0		
13	DM-3	46%		0.0		
14				0.0		
15	15.0			0.0		
16				0.0	**15.0 - 25.0** Clayey SILT and fine rounded GRAVEL, some fine sand, trace medium gravel and cobbles, brown, medium dense/loose, wet	
17		3.0		0.0		
18	DM-4	60%		0.0		
19				0.0		
20	20.0			0.0		
21				0.0		
22		2.0		0.0		
23	DM-5	40%		0.0		
24				0.0		
25	25.0			0.0		
26				0.0	End of Boring at 25.0'	
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-12 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-13**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/3/24	0.0 - 25.0	Sunny, 60s	17.1
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
0.5					**0.0 - 0.5** TOPSOIL, gravel, brown, loose, moist	
1				0.0	**0.5 - 5.5** Silty CLAY, lt brown/brown, medium stiff, moist	
2		4.5		0.0		
	DM-1	90%				
3				0.0		
4				0.0		
5 5.0				0.0		
5.5						
6				0.0	**5.5 -6.5** SILT and medium/large GRAVEL, little fine sand, brown/gray, loose, moist	
6.5						
7		2.7		0.0	**6.5 - 12.5** Fine SAND and SILT, little fine rounded gravel, brown, medium dense to loose moist to wet	
	DM-2	54%				
8				0.0		
9				0.0		
10 10.0				0.0		
					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-13 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-13**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**6.5 - 12.5** Fine SAND and SILT, little fine rounded gravel, brown, medium dense to loose moist to wet	
12		2.5		0.0		
12.5	DM-3	50%			wet at 12.5'	
13				0.0	**12.5 - 18.0** SILT and f/m rounded GRAVEL, some fine sand, brown, loose, moist to wet	
14				0.0		
15				0.0		
15.0						
16				0.0		
17		2.2		0.0		
	DM-4	44%				
18				0.0	wet at 18.0'	
18.0						
19				0.0	**18.0 - 25.0** Fine SAND and fine rounded GRAVEL, some silt, trace medium gravel, brown, medium dense, wet	
20				0.0		
20.0						
21				0.0		
22		2.0		0.0		
	DM-5	40%				
23				0.0		
24				0.0		
25				0.0		
25.0						
26				0.0	End of Boring at 25.0'	
27				0.0		
28				0.0		
29				0.0		
30				0.0		

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-13 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-15**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/4/24	0.0 - 20.0	Sunny, 60s	9.0
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1				0.0	**0.0 - 1.0** TOPSOIL, roots, medium gravel, dk brown, loose, moist	
1.0						
2		3.0		0.0	**1.0 - 12.0** SILT and f/m GRAVEL, some fine sand, little rock frags, lt brown to brown, medium dense, moist to wet	
	DM-1	60%				
3				0.0		
4				0.0		
5				0.0		
5.0						
6				0.0		
7		2.0		0.0		
	DM-2	40%				
8				0.0		
9				0.0		
10				0.0	wet at 10.0'	
10.0					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-15 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-15**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	Same ss Above (SILT and f/m GRAVEL)	
12				0.0		
12.0	DM-3	0.5 10%			**12.0 - 14.0** Fine SAND and f/m GRAVEL, trace	
13				0.0	silt, brown, loose, wet	
14				0.0		
14.0						
15				0.0	**14.0 - 15.0** SILT and f/m GRAVEL, little rock frags, trace fine sand, orangish-brown, med. stiff, wet	
15.0						
16				0.0	**15.0 - 20.0** Clayey SILT, some fine rounded gravel, little fine sand, gray, medium stiff to soft, wet	
17	DM-4	5.0 100%		0.0		
18				0.0		
19				0.0		
20				0.0		
20.0						
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-15 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-16**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/4/24	0.0 - 20.0	Sunny, 60s	12.2
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	1.0				0.0	**0.0 - 2.0** TOPSOIL, roots, medium gravel and rock frags, dk brown, loose, moist	
2	2.0	DM-1	3.5 70%		0.0	**2.0 - 16.0** SILT and f/m GRAVEL, some fine sand, little rock frags, lt brown, medium dense, dry	
3					0.0		
4					0.0		
5	5.0				0.0		
6					0.0		
7		DM-2	3.3 66%		0.0		
8					0.0		
9					0.0		
10	10.0				0.0	wet at 10.0'	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-16 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-16**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	Same ss Above (SILT and f/m GRAVEL)	
12		5.0		0.0		
13	DM-3	100%		0.0		
14				0.0		
15 15.0				0.0		
16 16.0				0.0		
17		5.0		0.0	**16.0 - 18.0** Clayey SILT, some fine rounded/ angular, gravel, trace fine sand, gray, medium stiff, moist	
18 18.0	DM-4	100%		0.0		
19				0.0	**18.0 - 20.0** Clayey SILT, some fine rounded gravel, little fine sand, medium stiff, wet	
20 20.0				0.0	wet at 19.0'	
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-16 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-17**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/4/24	0.0 - 20.0	Sunny, 50s	12.2
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
0.5					**0.0 - 0.5** TOPSOIL, roots, dk brown, loose, moist	
1				0.0	**0.5 - 9.5** SILT and f/m GRAVEL (angular/rounded), some fine sand, lt brown, medium dense, moist to wet	
2	DM-1	3.3 66%		0.0		
3				0.0		
4				0.0		
5 5.0				0.0		
6				0.0		
7	DM-2	2.0 40%		0.0		
8				0.0		
9				0.0		
9.5 10 10.0				0.0	wet at 9.5	
					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-17 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-17**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**9.5 - 12.0** SILT and f/m rounded GRAVEL, little, fine sand, brown, loose, wet	
12	12.0	4.0		0.0		
13	DM-3	80%		0.0	**12.0 - 17.0** Clayey SILT, trace fine rounded gravel, orangish-brown, medium stiff to soft wet	
14				0.0		
15	15.0			0.0		
16				0.0		
17	17.0	3.5		0.0		
18	DM-4	70%		0.0	**17.0 - 19.0** SILT and f/m rounded GRAVEL, little, fine sand, brown, loose, wet	
19	19.0			0.0	**19.0 - 20.0** Clayey SILT and fine rounded GRAVEL, little fine sand, soft to loose, wet	
20	20.0			0.0		
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-17 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-20**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/2/24	0.0 - 20.0	Sunny, 60s	13.3
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	DM-1	3.0 60%		0.0	**0.0 - 1.5** TOPSOIL, roots, dk brown, trace fine medium angular gravel, dk brown, loose, moist	
1.5						
2				0.0	**1.5 - 12.0** SILT and f/m GRAVEL (subangular/ rounded), little rock frags, trace fine sand and clay, brown, loose to medium dense, moist	
3				0.0		
4				0.0		
5				0.0		
5.0						
6	DM-2	3.0 60%		0.0		
7				0.0		
8				0.0		
9				0.0		
10				0.0		
10.0					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-20 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-20**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**9.5 - 12.0** Same as above (SILT and f/m rounded GRAVEL)	
12	12.0	4.0		0.0		
13	DM-3	80%		0.0	**12.0 - 15.5** Fine SAND and SILT, some f/m rounded gravel, brown, medium dense, moist	
14				0.0		
15	15.0			0.0		
16	15.5 16.0			0.0	**15.5 - 16.0** CLAY, little fine sand and rounded gravel, brown, soft, moist	
17		5.0		0.0	**16.0 - 20.0** Fine SAND, some silt and f/m rounded gravel, brown, medium dense, moist to wet	
18	DM-4	100%		0.0		
19				0.0	wet at 17.5	
20	20.0			0.0		
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-20 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-21**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/1/24	0.0 - 25.0	Cloudy, 60s	16.1
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 — 1.0	DM-1	2.8 56%		0.0	**0.0 - 1.0** TOPSOIL, roots, dk brown, loose, moist	
2				0.0	**1.0 - 18.0** SILT and f/m GRAVEL (angular/ subangular/rounded) and f/m SAND, some rock frags, trace clay, medium dense, moist	
3				0.0		
4				0.0		
5 — 5.0				0.0		
6	DM-2	3.3 66%		0.0		
7				0.0		
8				0.0		
9				0.0		
10 — 10.0				0.0		
					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-21 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-21**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**1.0 - 18.0** Same as above (SILT and f/m GRAVEL)	
12		3.5		0.0		
13	DM-3	70%		0.0		
14				0.0		
15	15.0			0.0		
16				0.0		
17		3.5		0.0		
18	DM-4	70%		0.0		
19	18.0			0.0	**18.0 - 24.0** Same as above. (SILT and f/m GRAVEL)	
20	20.0			0.0		
21				0.0		
22		4.0		0.0		
23	DM-5	80%		0.0		
24	24.0			0.0		
25				0.0	**24.0 - 25.0** Fine SAND, trace fine rounded gravel, brown, soft, wet	
26					End of Boring at 25.0'	
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-21 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-22**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/1/24	0.0 - 23.0	Cloudy, 60s	19.5
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
0.5					**0.0 - 0.5** TOPSOIL, roots, dk brown, loose, moist	
1				0.0	**0.5 - 9.0** f/m SAND and f/m GRAVEL (angular/ subangular/rounded), little clay, trace silt, trace frags, brown, medium dense, moist	
2	DM-1	1.5 30%		0.0		
3				0.0		
4				0.0		
5 5.0				0.0		
6				0.0		
7	DM-2	3.5 70%		0.0		
8				0.0		
9 9.0				0.0		
10 10.0				0.0	**9.0 - 11.5** f/m SAND and f/m mixed GRAVEL, little silt, brown, medium dense, moist	
					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-22 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-22**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**9.0 - 11.5** f/m SAND and f/m mixed GRAVEL, little silt, brown, medium dense, moist	
11.5						
12		5.0		0.0	**11.5 - 12.5** Silty CLAY, orangish-brown, medium stiff, moist	
12.5	DM-3	100%				
13				0.0	**12.5 - 23.0** Clayey SILT, gray, soft, moist to wet	
14				0.0		
15				0.0		
15.0						
16				0.0	wet at 16.0'	
17		2.7		0.0		
	DM-4	54%				
18				0.0		
19				0.0		
20				0.0		
20.0						
21				0.0		
22		3.0		0.0		
	DM-5	60%				
23				0.0		
23.0						
24					End of Boring at 23.0'	
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-22 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-23**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: 6620DT Track Mounted Geoprobe					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/3/24	0.0 - 25.0	Sunny, 50s	19.5
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	DM-1	2.3 46%		0.0	**0.0 - 4.5** SILT and mixed f/m GRAVEL, some clay, little fine sand, lt brown to brown, medium dense, moist	
2				0.0		
3				0.0		
4				0.0		
4.5 5				0.0	**4.5 - 18.0** SILT and mixed fine GRAVEL, little fine sand, trace medium to large gravel, loose, moist	
6	DM-2	2.3 46%		0.0		
7				0.0		
8				0.0		
9				0.0		
10				0.0		
					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-23 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-23**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**4.5 - 18.0** SILT and mixed fine GRAVEL, little fine sand, trace medium to large gravel, loose, moist	
12		2.0		0.0		
13	DM-3	40%		0.0		
14				0.0		
15	15.0			0.0		
16				0.0		
17		3.0		0.0		
18	DM-4	60%		0.0		
	18.0					
	18.5				**18.0 - 18.5** Dk gray SHALE frags with a little calcite, trace silt	
19	19.0			0.0		
					18.5 - 19.0 Fine SAND and SILT, trace rounded gravel, brown, medium dense, moist	
20	20.0			0.0		
21				0.0	**19.0 - 25.0** Clayey fine SAND and SILT, trace fine rounded gravel and rock frags, brown, soft, wet	
22		4.0		0.0		
23	DM-5	80%		0.0	wet at 19.0'	
24				0.0		
25	25.0			0.0		
26					End of Boring at 25.0'	
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-23 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-25**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/8/24	0.0 - 20.0	Sunny, 60s	16.7
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)		Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					0.0	**0.0 - 1.5** TOPSOIL, roots, dk brown, trace fine medium angular gravel, dk brown, loose, moist	
	1.5						
2			4.0		0.0	**1.5 - 4.0** CLAY, trace fine gravel, orangish-brown, medium stiff, moist	
3		DM-1	80%		0.0		
4	4.0				0.0		
5	5.0				0.0	**4.0 - 9.5** SILT and fine to coarse GRAVEL (poorly sorted), some fine to coarse sand (poorly sorted), brown, loose to medium dense, moist	
6					0.0		
7			2.0		0.0		
8		DM-2	40%		0.0		
9					0.0		
	9.5						
10	10.0				0.0	**9.5 - 10.0** Fine SAND, dk brown, soft, moist	
						Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-25 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-25**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**10.0 - 19.0** SILT, fine to coarse SAND and rounded GRAVEL (PS), brown, medium dense, moist to wet	
12		1.8		0.0		
	DM-3	36%				
13				0.0		
14				0.0	wet at 14.0'	
15	15.0			0.0		
16				0.0		
17		1.5		0.0		
	DM-4	30%				
18				0.0		
19	19.0			0.0		
20	20.0			0.0	**19.0 - 20.0** Fine SAND, little f/m rounded gravel, trace silt, brown, medium dense, wet	
21					End of Boring at 20.0'	
22						
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-25 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-34**
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig:	6620DT Track Mounted Geoprobe				**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.75" O.D.	2.25" O.D.	--	--	10/3/24	0.0 - 25.0	Sunny, 60s	17.4
Length	5'	5'	--	--				
Type	Macro Core	Steel	--	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1				0.0	**0.0 - 1.5** TOPSOIL, roots, dk brown, loose, moist	
1.5						
2		2.2		0.0	**1.5 - 20.0** SILT and f/m mixed GRAVEL, some fine sand, little rock frags, brown, loose to medium dense, moist to wet	
3	DM-1	44%		0.0		
4				0.0		
5				0.0		
5.0						
6				0.0		
7		2.5		0.0		
8	DM-2	50%		0.0		
9				0.0		
10				0.0		
10.0					Continued on Sheet 2	

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-34 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **GWG-34**

SAMPLE TYPE
S = Sonic Sleeve A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core D = Direct Push
P = Piston M = Macro Core N = No Sample

DEFINITIONS
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ppm = parts per million

Depth (Ft.)	Run No.	Sample Rec. (Ft.,%)	Soil Sample ID & Bottom Depth	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11				0.0	**1.5 - 20.0** SILT and f/m mixed GRAVEL, some fine sand, little rock frags, brown, loose to medium dense, moist to wet	
12	DM-3	3.0 60%		0.0		
13				0.0		
14				0.0		
15 15.0				0.0		
16				0.0		
17	DM-4	1.5 30%		0.0		
18				0.0	wet at 18.0'	
19				0.0		
20 20.0				0.0		
21				0.0	**20.0 - 24.0** SILT and f/m rounded GRAVEL, little fine sand, brown, loose/medium dense, wet	
22	DM-5	1.5 30%		0.0		
23				0.0		
24				0.0		
25 25.0				0.0	**24.0 - 25.0** Fine SAND, trace fine rounded gravel, brown, soft, wet	
26					End of Boring at 25.0'	
27						
28						
29						
30						

DRILLING COMPANY: Allprobe Environmental, Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: GWG-34 SHEET 2 OF 2

ATTACHMENT D

Test Boring and Well Construction Records

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Saegertown PFAS Site			
PROJ. NO.:	189432		BORING NO.:	**BMW-1**
COORDINATES:	EAST:	1,315,870.61	NORTH:	574,061.22
ELEVATION:	SURFACE:	1,121.02	TOP OF PVC CASING:	1,123.57

Rig: Geoprobe 7822DT Truck Mounted								
	Liner	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	1.68"		4.25"		11/13/2024	0.0-28.0	Sunny, 30s	22.5
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-12. Macro-core drilled then augered to depth.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+2.5	17.5
Schedule 40 PVC - 0.01" Slot Screen	2"	17.5	27.5

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1	DM-1	3.0		0.0	Top Soil/Grass; dark brown; loose to medium stiff; moist 1.5	Concrete; Top of Bentonite at 1'	
2				0.0	SILT and FINE to MEDIUM GRAVEL, some fine sand, little clay and rock fragments; brown; medium dense; moist to wet (FILL)		
3				0.0			
4				0.0			
5				0.0		2" PVC Riser	
6	DM-2	2.7		0.0			
7				0.0		Bentonite	
8				0.0			
9				0.0			
10				0.0			

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-1 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-1**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11				0.0	SILT and FINE to MEDIUM GRAVEL, some fine sand, little clay and rock fragments; brown; medium dense; moist to wet (FILL)	2" PVC Riser	
12				0.0			
13	DM-3	2.3		0.0		Bentonite	
14				0.0			
15	15.0			0.0	Wet at 15' 15.0	Top of Sand at 15'	
16				0.0	CLAYEY SILT and FINE GRAVEL, some fine sand, trace medium to large gravel; brown; loose to medium dense; wet		
17				0.0		Top of 2" PVC Screen at 17.5'	
18	DM-4	2.5		0.0			
19				0.0			
20	20.0			0.0			
21				0.0			
22				0.0			
23	DM-5	3.0		0.0		2" PVC Screen	
24				0.0	24.5		
25	25.0			0.0	FINE SAND and FINE GRAVEL, some silt; brown; medium dense; wet		
26				0.0			
27	DM-6	3.0		0.0		Bottom of 2" PVC Screen at 27.5'	
28	28.0			0.0	28.0	Cave-In	
29					End of Boring at 28.0'		
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-1 SHEET 2 OF 2

TEST BORING AND WELL CONSTRUCTION RECORD

Michael Baker INTERNATIONAL

PROJECT:	Saegertown PFAS Site			
PROJ. NO.:	189432		BORING NO.:	**BMW-2**
COORDINATES:	EAST:	1,315,396.55	NORTH:	574,243.27
ELEVATION:	SURFACE:	1,112.17	TOP OF PVC CASING:	1,114.68

Rig: Geoprobe 7822DT Truck Mounted					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.68"		4.25"		11/18/2024	0.0-23.0	Sunny, 50s	19.3
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-9.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+3	12.0
Schedule 40 PVC - 0.01" Slot Screen	2"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1	A-1			0.0	Top Soil/Grass/Roots; brown; soft; moist 0.5 SILTY CLAY, trace fine rounded gravel and rock fragments; orange-brown; medium stiff; moist	Concrete Top of Bentonite at 1'	
2				0.0			
3				0.0	3.0		
4				0.0	FINE SAND, some fine to medium rounded gravel and silt, trace slag; brown; medium dense; wet at 3'		
5	5.0			0.0	5.5	2" PVC Riser	
6	A-2			0.0	SILT, FINE to COARSE SAND and FINE to MEDIUM GRAVEL, few cobbles; brown; medium dense to loose; wet		
7				0.0		Bentonite	
8				0.0			
9				0.0			
10	10.0			0.0			

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-2 SHEET 1 OF 2

Michael Baker INTERNATIONAL

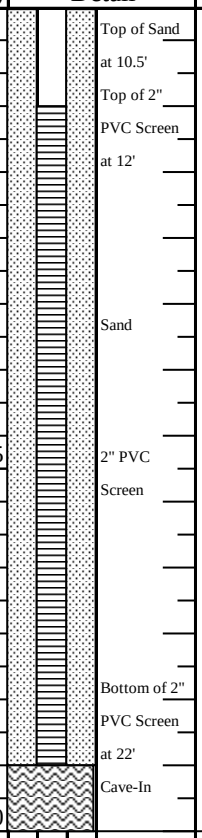
TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-2**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11				0.0	SILT, FINE to COARSE SAND and FINE to MEDIUM GRAVEL, few cobbles; brown; medium dense to loose; wet	Top of Sand at 10.5'	
12				0.0		Top of 2" PVC Screen at 12'	
13	A-3			0.0			
14				0.0			
15	15.0			0.0		Sand	
16				0.0			
17				0.0			
18	A-4			0.0	17.5 FINE to MEDIUM GRAVEL, some silt, trace fine to coarse sand; yellow-brown; wet	2" PVC Screen	
19				0.0			
20	20.0			0.0			
21				0.0		Bottom of 2" PVC Screen at 22'	
22	A-5			0.0			
23	23.0			0.0	23.0	Cave-In	
24					End of Boring at 23.0'		
25							
26							
27							
28							
29							
30							



DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-2 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-3**
COORDINATES: EAST: 1,315,244.18 NORTH: 574,224.04
ELEVATION: SURFACE: 1,113.58 TOP OF PVC CASING: 1,116.33

Rig: Geoprobe 7822DT Truck Mounted

	Liner	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1.68"		4.25"		11/19/2024	0.0-26.0	Partly Sunny, 40s	21.8
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to SB-4. Macro-core drilled then augered to depth.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+3	16.0
Schedule 40 PVC - 0.01" Slot Screen	2"	16.0	26.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1				0.0	Top Soil/Grass/Roots; dark brown; loose; soft; moist 1.0	Concrete; Top of Bentonite at 1'	
2		DM-1	4.5	0.0	SILTY CLAY; orangish to light brown; medium stiff; moist		
3				0.0			
4				0.0			
5	5.0			0.0		2" PVC Riser	
6					6.0		
7		DM-2	1.5		SILT and FINE to MEDIUM GRAVEL, some fine sand, trace rock fragments; brown; medium dense to loose; moist to wet, wet at 7'	Bentonite	
8							
9				0.0	Large light gray cobble at 9.5' 9.5		
10	10.0			0.0	SILT, COARSE SAND and FINE to MEDIUM ROUNDED GRAVEL, little fine sand; brown; medium dense; wet		

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-3 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-3**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT, COARSE SAND and FINE to MEDIUM ROUNDED GRAVEL, little fine sand; brown; medium dense; wet	2" PVC Riser	
12						Bentonite	
13	DM-3	1.8		0.0		Top of Sand at 14'	
14				0.0			
15	15.0			0.0		Top of 2" PVC Screen at 16'	
16					16.0		
17					CLAYEY SILT and FINE SAND, little rounded fine to medium gravel, trace cobbles; brown; soft; wet		
18	DM-4	2.0		0.0			
19				0.0		Sand	
20	20.0			0.0			
21						2" PVC Screen	
22					22.0		
23	DM-5	1.7			SILT, COARSE SAND, and FINE to MEDIUM GRAVEL, trace fine sand and cobbles; brown; medium dense to loose; wet		
24				0.0			
25	25.0			0.0		Bottom of 2" PVC Screen at 26'	
26	DM-6 / 26.0			0.0	26.0		
27					End of Boring at 26.0'		
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-3 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-4**
COORDINATES: EAST: 1,315,035.72 NORTH: 574,345.83
ELEVATION: SURFACE: 1,115.03 TOP OF PVC CASING: 1,117.54

Rig: Geoprobe 7822DT Truck Mounted

	Liner	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1.68"		4.25"		11/19/2024	0.0-26.0	Partly Sunny, 40s	20.3
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-5.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+3	16.0
Schedule 40 PVC - 0.01" Slot Screen	2"	16.0	26.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1				0.0	Top Soil/Grass/Roots, trace fine gravel; dark brown; soft to medium stiff; moist 1.5	Concrete; Top of Bentonite at 1'	
2	A-1			0.0	SILTY CLAY; orange-brown; medium stiff; moist 3.0		
3				0.0			
4				0.0	SILT and FINE ROUNDED GRAVEL, trace fine sand and rock fragments; brown; medium stiff to dense; dry to moist		
5				0.0		2" PVC Riser	
6				0.0			
7	A-2			0.0		Bentonite	
8				0.0			
9				0.0			
10				0.0			
10.0							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-4 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-4**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description	(Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11				0.0	SILT and FINE ROUNDED GRAVEL, trace fine sand and rock fragments; brown;		2" PVC Riser	
12				0.0	medium stiff to dense; dry to moist			
					Lense of fine black to dk brown	12.7	Bentonite	
13	A-3			0.0	sand at 12.5-12.7'			
					SILT, COARSE SAND, and FINE		Top of Sand	
14				0.0	to MEDIUM ROUNDED GRAVEL,		at 14'	
					trace fine sand and cobbles; brown;			
15	15.0			0.0	medium dense to loose; wet		Top of 2"	
							PVC Screen	
16				0.0			at 16'	
17				0.0				
	A-4							
18				0.0				
19				0.0				
							Sand	
20	20.0			0.0				
21				0.0			2" PVC	
							Screen	
22				0.0				
	A-5							
23				0.0				
24				0.0				
					less silt at 24' to 25'			
25	25.0			0.0			Bottom of 2"	
	A-6						PVC Screen	
26	26.0			0.0		26.0	at 26'	
					End of Boring at 26.0'			
27								
28								
29								
30								

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-4 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Saegertown PFAS Site				
PROJ. NO.:	189432		BORING NO.:	**BMW-5**	
COORDINATES:	EAST:	1,314,704.74	NORTH:	574,470.58	
ELEVATION:	SURFACE:	1,112.96	TOP OF PVC CASING:	1,112.57	

Rig: Geoprobe 7822DT Truck Mounted					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.68"		4.25"		11/15/2024	0.0-25.0	Light Rain, 40s	16.3
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-34.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0.0	13.0
Schedule 40 PVC - 0.01" Slot Screen	2"	13.0	23.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1					Top Soil/Grass/Roots; dark brown; moist	Concrete	
					1.5	Top of Bentonite at 1'	
2	A-1				SILT and FINE GRAVEL, some fine sand, little rock fragments; brown; loose to medium dense; moist to wet		
3							
4							
5						2" PVC Riser	
5.0							
6							
7	A-2					Bentonite	
8							
9							
10							
10.0							

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-5 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-5**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description	(Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE GRAVEL, some fine sand, little rock fragments; brown; loose to medium dense; moist to wet		Bentonite; Top of Sand at 11'; Top of 2" PVC Screen at 13'	
13	A-3							
15	15.0							
16							Sand	
17	A-4							
18					Wet at 18'			
19							2" PVC Screen	
20	20.0					20.0		
21					SILT and FINE GRAVEL, little fine sand; brown; loose to medium dense; wet			
22	A-5						Bottom of 2" PVC Screen at 23'	
23								
24						24.0	Cave-In	
25	25.0				FINE SAND, trace fine rounded gravel; brown; soft; wet	25.0		
26					End of Boring at 25.0'			
27								
28								
29								
30								

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-5 SHEET 2 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-6**
COORDINATES: EAST: 1,314,267.19 NORTH: 574,713.25
ELEVATION: SURFACE: 1,114.23 TOP OF PVC CASING: 1,113.76

Rig: Geoprobe 7822DT Truck Mounted

	Liner	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1.68"		4.25"		11/14/2024	0.0-25.0	Rain, 40s	17.25
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

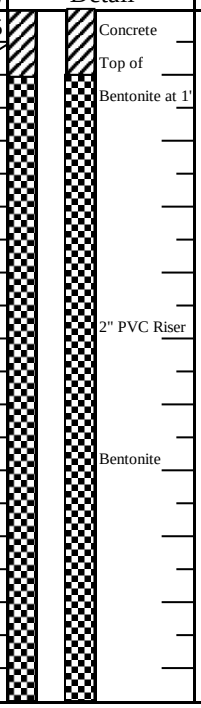
Remarks: Adjacent to GWG-23.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0.0	13.0
Schedule 40 PVC - 0.01" Slot Screen	2"	13.0	23.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description	(Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1					Top Soil/Grass/Roots; dark brown; loose; moist	0.5	Concrete	
2	A-1				SILT and FINE to MEDIUM GRAVEL, trace clay and fine sand; medium dense; moist to wet		Top of Bentonite at 1'	
3								
4								
5	5.0						2" PVC Riser	
6								
7	A-2						Bentonite	
8								
9								
10	10.0							



DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-6 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-6**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE to MEDIUM GRAVEL, trace clay and fine sand; medium dense; moist to wet	Bentonite; Top of Sand at 11'; Top of 2" PVC Screen at 13'	
12							
13	A-3						
14							
15	15.0						
16						Sand	
17	A-4						
18							
19						2" PVC Screen	
20	20.0						
21							
22						Bottom of 2" PVC Screen at 23'	
23	A-5						
24					24.0	Cave-In	
25	25.0				FINE SAND, little fine rounded gravel; brown; soft; wet 25.0		
26					End of Boring at 25.0'		
27							
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-6 SHEET 2 OF 2

TEST BORING AND WELL CONSTRUCTION RECORD

Michael Baker INTERNATIONAL

PROJECT:	Saegertown PFAS Site			
PROJ. NO.:	189432		BORING NO.:	**BMW-7**
COORDINATES:	EAST:	1,314,677.63	NORTH:	575,052.52
ELEVATION:	SURFACE:	1,114.85	TOP OF PVC CASING:	1,114.54

Rig: Geoprobe 7822DT Truck Mounted

	Liner	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1.68"		4.25"		11/14/2024	0.0-25.0	Rain, 40s	18.63
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-24. Macro-core, then auger.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0.0	15.0
Schedule 40 PVC - 0.01" Slot Screen	2"	15.0	25.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1	DM-1	3.5		0.0	SILT and FINE GRAVEL, some clay, little fine sand; light brown to brown; medium dense; moist	Concrete; Top of Bentonite at 1'	
2				0.0			
3				0.0			
4				0.0			
5	DM-2			0.0	SILT and FINE GRAVEL (Round, Subangular, Angular), little fine sand, trace medium to large gravel; brown; loose; moist	2" PVC Riser	
6							
7		3.0		0.0		Bentonite	
8				0.0			
9				0.0			
10				0.0			

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-7 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-7**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE GRAVEL (Round, Subangular, Angular), little fine sand, trace medium to large gravel; brown; loose; moist	Bentonite; 2" PVC Riser	
12							
13	DM-3	2.3		0.0		Top of Sand at 13'	
14				0.0		Top of 2" PVC Screen at 15'	
15	15.0			0.0			
16							
17							
18	DM-4	2.5		0.0	18.0	Sand	
19				0.0	Dk. Gray Shale and quartz/ calcite frags., trace silt 18.5		
20	20.0			0.0	FINE SAND and SILT, trace round gravel;brown;med.dense; moist 19.0	2" PVC Screen	
21					CLAYEY FINE SAND and SILT, trace fine rounded gravel and rock fragments; brown; soft; wet at 19'		
22							
23	DM-5	2.5		0.0			
24				0.0		Bottom of 2" PVC Screen at 25'	
25	25.0			0.0	25.0		
26					End of Boring at 25.0'		
27							
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-7 SHEET 2 OF 2

TEST BORING AND WELL CONSTRUCTION RECORD

Michael Baker INTERNATIONAL

PROJECT:	Saegertown PFAS Site			
PROJ. NO.:	189432		BORING NO.:	**BMW-8**
COORDINATES:	EAST:	1,315,402.87	NORTH:	573,034.54
ELEVATION:	SURFACE:	1,108.13	TOP OF PVC CASING:	1,109.83

Rig: Geoprobe 7822DT Truck Mounted	**Liner**	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	1.68"		4.25"		11/13/2024	0.0-15.0	Sunny, 40s	11.05
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-15. Macro-core, then augered.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+2.0	3.0
Schedule 40 PVC - 0.01" Slot Screen	2"	3.0	13.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1					Topsoil/Roots/Grass/Medium Gravel; dark brown; loose; moist 1.0	Concrete; 2" PVC Riser; Bentonite	
2	DM-1	3.0		0.0	SILT and FINE to MEDIUM GRAVEL, some fine sand, little rock fragments; light brown and brown; medium dense; moist to wet	Top of Sand at 1.5'; Top of 2" PVC Screen at 3'	
3				0.0			
4				0.0			
5	5.0			0.0		2" PVC Screen	
6							
7	DM-2	2.5					
8				0.0		Sand	
9				0.0			
10	10.0			0.0	Wet at 10'		

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-8 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-8**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE to MEDIUM GRAVEL, some fine sand, little rock fragments; light brown	Sand	
12					and brown; medium dense; wet 12.0	Bottom of 2" PVC Screen at 13'	
13	DM-3	2.8		0.0	FINE SAND and FINE to MEDIUM GRAVEL, trace silt; brown; loose; wet		
14				0.0	14.0	Cave-In	
15 15.0				0.0	SILT and FINE GRAVEL, little rock frags., trace fine sand; orange-brown; med. stiff; wet 15.0		
16					End of Boring at 15.0'		
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-8 SHEET 2 OF 2

TEST BORING AND WELL CONSTRUCTION RECORD

Michael Baker INTERNATIONAL

PROJECT:	Saegertown PFAS Site				
PROJ. NO.:	189432		BORING NO.:	**BMW-9**	
COORDINATES:	EAST:	1,314,415.97	NORTH:	573,869.85	
ELEVATION:	SURFACE:	1,110.29	TOP OF PVC CASING:	1,109.70	

Rig: Geoprobe 7822DT Truck Mounted					**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
	Liner	**Casing**	**Augers**	**Core Barrel**				
Size (ID)	1.68"		4.25"		11/15/2024	0.0-22.0	Light Rain, 40s	13.75
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-20.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0.0	11.0
Schedule 40 PVC - 0.01" Slot Screen	2"	11.0	21.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1					Topsoil/Grass/Roots/Medium Gravel; dark brown; loose; moist	Concrete	
2	A-1				1.5 SILT and FINE to MEDIUM GRAVEL, little medium rock fragments, trace fine sand and clay; brown; loose to medium dense; moist	Top of Bentonite at 1'	
3							
4						2" PVC Riser	
5	5.0						
6							
7	A-2					Bentonite	
8							
9						Top of Sand at 9'	
10	10.0						

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-9 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-9**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE to MEDIUM GRAVEL, little med. rock fragments, trace fine sand and clay; brown;loose to medium dense; moist 12.0	Top of 2" PVC Screen at 11'	
12							
13	A-3				FINE SAND and SILT, some fine to medium round gravel; brown; medium stiff to stiff; moist		
14							
15	15.0					2" PVC Screen	
16					15.5 CLAY, little fine sand and fine rounded gravel; brown; soft; moist 16.0		
17					FINE SAND, some silt and fine round gravel; brown; medium dense; moist to wet at 17.5'		
18	A-4					Sand	
19							
20	20.0					Bottom of 2" PVC Screen at 21'	
21	A-5					Cave-In	
22	22.0				22.0		
23					End of Boring at 22.0'		
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-9 SHEET 2 OF 2

TEST BORING AND WELL CONSTRUCTION RECORD

Michael Baker INTERNATIONAL

PROJECT:	Saegertown PFAS Site			
PROJ. NO.:	189432		BORING NO.:	**BMW-10**
COORDINATES:	EAST:	1,314,808.89	NORTH:	573,005.03
ELEVATION:	SURFACE:	1,108.48	TOP OF PVC CASING:	1,111.02

Rig: Geoprobe 7822DT Truck Mounted

	Liner	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1.68"		4.25"		11/18/2024	0.0-22.0	Mostly Sunny, 50s	14.7
Length	5'		5'					
Type	PVC		Steel					
Hammer Wt.	---		---					
Fall	---		---					

Remarks: Adjacent to GWG-17.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	2"	0+3	12.0
Schedule 40 PVC - 0.01" Slot Screen	2"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description	(Ft.)	Well Installation Detail	Elevation (Ft. MSL)
1					Topsoil/Grass; dk. brown;loose;moist	0.5	Concrete	
2	A-1				SILT and FINE to MEDIUM GRAVEL (Round, Angular, Subangular), some fine sand; light brown; medium dense; moist		Top of Bentonite at 1'	
3								
4							2" PVC Riser	
5	5.0							
6								
7	A-2						Bentonite	
8								
9								
10	10.0				Wet at 9.5'	9.5	Top of Sand at 10'	
					SILT and FINE ROUNDED GRAVEL, little fine sand; brown; loose; wet			

DRILLING CO.:	Allprobe Environmental Inc.	BAKER REP.:	Brad Mikula
DRILLER:	Sly Penwell	BORING NO.:	BMW-10 SHEET 1 OF 2

Michael Baker INTERNATIONAL

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Saegertown PFAS Site
PROJ. NO.: 189432 BORING NO.: **BMW-10**

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.)	Sample Interval (Ft.)	PID (ppm)	Visual Description (Ft.)	Well Installation Detail	Elevation (Ft. MSL)
11					SILT and FINE ROUNDED GRAVEL, little fine sand; brown; loose; wet 12.0	Top of 2" PVC Screen at 12'	
12							
13	A-3				CLAYEY SILT, trace fine rounded gravel; orange-brown; medium stiff to soft; wet		
14							
15	15.0					2" PVC Screen	
16							
17					17.0		
18	A-4				SILT and FINE to MEDIUM ROUNDED GRAVEL, little fine sand; brown; loose; wet	Sand	
19					19.0		
20	20.0				CLAYEY SILT and FINE to MEDIUM GRAVEL, little fine sand; gray; loose to soft; wet		
21	A-5					Bottom of 2" PVC Screen at 22'	
22	22.0				22.0		
23					End of Boring at 22.0'		
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: Allprobe Environmental Inc. BAKER REP.: Brad Mikula
DRILLER: Sly Penwell BORING NO.: BMW-10 SHEET 2 OF 2

OBG Part of Ramboll | Michael Baker INTERNATIONAL

OBG|Baker Environmental Solutions Joint Venture

ATTACHMENT E

Laboratory Analytical Reports
December 2024 Groundwater Sampling Event

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 24, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Sagertown, PA
Client Job Number:
Project Number: 189432
Laboratory Work Order Number: 24L0334

Enclosed are results of analyses for samples as received by the laboratory on December 5, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 12/24/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24L0334

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Sagertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
BMW-1	24L0334-01	Ground Water		EPA 1633	
GM-24S	24L0334-02	Ground Water		EPA 1633	
GM-24S DUP	24L0334-03	Ground Water		EPA 1633	
GM-24D	24L0334-04	Ground Water		EPA 1633	
BMW-8	24L0334-05	Ground Water		EPA 1633	
BMW-7	24L0334-06	Ground Water		EPA 1633	
BMW-6	24L0334-07	Ground Water		EPA 1633	
BMW-9	24L0334-08	Ground Water		EPA 1633	
SBMW-1	24L0334-09	Ground Water		EPA 1633	
BMW-10	24L0334-10	Ground Water		EPA 1633	
OB-6-100	24L0334-11	Ground Water		EPA 1633	
SBW	24L0334-12	Ground Water		EPA 1633	
BMW-5	24L0334-13	Ground Water		EPA 1633	
PW-2	24L0334-14	Ground Water		EPA 1633	
PW-1	24L0334-15	Ground Water		EPA 1633	
PW-6	24L0334-16	Ground Water		EPA 1633	
PW-7	24L0334-17	Ground Water		EPA 1633	
PW-7 DUP	24L0334-18	Ground Water		EPA 1633	
FB-1224	24L0334-19	Field Blank		EPA 1633	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA 1633

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

13C2-4:2FTS
S115364-CCB2, S115364-CCB3, S115364-CCB4, S115364-CCB5, S115364-IBL1

13C2-6:2FTS
S115364-CCB5

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS
S115364-CCB2, S115364-CCB3, S115364-CCB4, S115364-CCB5, S115364-IBL1

1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
S115364-CCB5

D3-NMeFOSAA
S115364-CCB3, S115364-CCB4, S115364-CCB5

D5-NEtFOSAA
24L0334-19[FB-1224], S115364-CCB2, S115364-CCB3, S115364-CCB4, S115364-CCB5

N-EtFOSAA (NEtFOSAA)
24L0334-19[FB-1224], S115364-CCB2, S115364-CCB3, S115364-CCB4, S115364-CCB5

N-MeFOSAA (NMeFOSAA)
S115364-CCB3, S115364-CCB4, S115364-CCB5

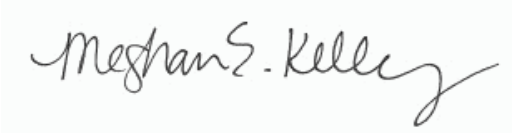
V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
B394095-BS1, B394095-MRL1, B394095-MS2, B394095-MSD2

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-1 | Sampled: 12/2/2024 16:30

Sample ID: 24L0334-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-1 | Sampled: 12/2/2024 16:30

Sample ID: 24L0334-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/16/24 22:27	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	87.0	5-130		12/16/24 22:27
13C5-PFPeA	87.3	40-130		12/16/24 22:27
13C5-PFHxA	90.7	40-130		12/16/24 22:27
13C4-PFHpA	93.2	40-130		12/16/24 22:27
13C8-PFOA	86.3	40-130		12/16/24 22:27
13C9-PFNA	86.6	40-130		12/16/24 22:27
13C6-PFDA	85.2	40-130		12/16/24 22:27
13C7-PFUnA	79.6	30-130		12/16/24 22:27
13C2-PFDoA	70.2	10-130		12/16/24 22:27
13C2-PFTeDA	65.3	10-130		12/16/24 22:27
13C3-PFBS	89.8	40-135		12/16/24 22:27
13C3-PFHxS	91.8	40-130		12/16/24 22:27
13C8-PFOS	80.5	40-130		12/16/24 22:27
13C2-4:2FTS	98.9	40-200		12/16/24 22:27
13C2-6:2FTS	97.1	40-200		12/16/24 22:27
13C2-8:2FTS	80.5	40-300		12/16/24 22:27
13C8-PFOSA	82.3	40-130		12/16/24 22:27
D3-NMeFOSA	65.3	10-130		12/16/24 22:27
D5-NEtFOSA	61.8	10-130		12/16/24 22:27
D3-NMeFOSAA	76.0	40-170		12/16/24 22:27
D5-NEtFOSAA	73.6	25-135		12/16/24 22:27
D7-NMeFOSE	70.9	10-130		12/16/24 22:27
D9-NEtFOSE	67.6	10-130		12/16/24 22:27
13C3-HFPO-DA	98.7	40-130		12/16/24 22:27

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24S | Sampled: 12/3/2024 11:30

Sample ID: 24L0334-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorohexanesulfonic acid (PFHxS)	5.8	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorooctanesulfonic acid (PFOS)	34	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24S | Sampled: 12/3/2024 11:30

Sample ID: 24L0334-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:36	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	88.8	5-130		12/16/24 22:36
13C5-PFPeA	88.2	40-130		12/16/24 22:36
13C5-PFHxA	85.8	40-130		12/16/24 22:36
13C4-PFHpA	90.3	40-130		12/16/24 22:36
13C8-PFOA	85.5	40-130		12/16/24 22:36
13C9-PFNA	87.0	40-130		12/16/24 22:36
13C6-PFDA	84.6	40-130		12/16/24 22:36
13C7-PFUnA	76.6	30-130		12/16/24 22:36
13C2-PFDoA	71.8	10-130		12/16/24 22:36
13C2-PFTeDA	66.9	10-130		12/16/24 22:36
13C3-PFBS	91.0	40-135		12/16/24 22:36
13C3-PFHxS	89.7	40-130		12/16/24 22:36
13C8-PFOS	83.0	40-130		12/16/24 22:36
13C2-4:2FTS	124	40-200		12/16/24 22:36
13C2-6:2FTS	110	40-200		12/16/24 22:36
13C2-8:2FTS	80.1	40-300		12/16/24 22:36
13C8-PFOSA	83.8	40-130		12/16/24 22:36
D3-NMeFOSA	72.6	10-130		12/16/24 22:36
D5-NEtFOSA	67.4	10-130		12/16/24 22:36
D3-NMeFOSAA	83.1	40-170		12/16/24 22:36
D5-NEtFOSAA	80.4	25-135		12/16/24 22:36
D7-NMeFOSE	70.9	10-130		12/16/24 22:36
D9-NEtFOSE	69.6	10-130		12/16/24 22:36
13C3-HFPO-DA	95.6	40-130		12/16/24 22:36

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24S DUP | Sampled: 12/3/2024 11:35

Sample ID: 24L0334-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorohexanesulfonic acid (PFHxS)	6.6	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorooctanesulfonic acid (PFOS)	33	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24S DUP | Sampled: 12/3/2024 11:35

Sample ID: 24L0334-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 22:45	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	84.9	5-130		12/16/24 22:45
13C5-PFPeA	86.5	40-130		12/16/24 22:45
13C5-PFHxA	85.3	40-130		12/16/24 22:45
13C4-PFHpA	87.6	40-130		12/16/24 22:45
13C8-PFOA	80.7	40-130		12/16/24 22:45
13C9-PFNA	83.3	40-130		12/16/24 22:45
13C6-PFDA	86.1	40-130		12/16/24 22:45
13C7-PFUnA	81.3	30-130		12/16/24 22:45
13C2-PFDoA	75.0	10-130		12/16/24 22:45
13C2-PFTeDA	69.7	10-130		12/16/24 22:45
13C3-PFBS	85.8	40-135		12/16/24 22:45
13C3-PFHxS	80.4	40-130		12/16/24 22:45
13C8-PFOS	82.9	40-130		12/16/24 22:45
13C2-4:2FTS	114	40-200		12/16/24 22:45
13C2-6:2FTS	96.9	40-200		12/16/24 22:45
13C2-8:2FTS	78.7	40-300		12/16/24 22:45
13C8-PFOSA	78.2	40-130		12/16/24 22:45
D3-NMeFOSA	65.7	10-130		12/16/24 22:45
D5-NEtFOSA	64.1	10-130		12/16/24 22:45
D3-NMeFOSAA	82.2	40-170		12/16/24 22:45
D5-NEtFOSAA	75.1	25-135		12/16/24 22:45
D7-NMeFOSE	69.6	10-130		12/16/24 22:45
D9-NEtFOSE	66.0	10-130		12/16/24 22:45
13C3-HFPO-DA	94.4	40-130		12/16/24 22:45

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24D | Sampled: 12/3/2024 11:55

Sample ID: 24L0334-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorohexanesulfonic acid (PFHxS)	7.0	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorooctanesulfonic acid (PFOS)	22	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.7	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: GM-24D | Sampled: 12/3/2024 11:55

Sample ID: 24L0334-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 22:54	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	85.6	5-130		12/16/24 22:54
13C5-PFPeA	85.2	40-130		12/16/24 22:54
13C5-PFHxA	86.6	40-130		12/16/24 22:54
13C4-PFHpA	93.8	40-130		12/16/24 22:54
13C8-PFOA	83.3	40-130		12/16/24 22:54
13C9-PFNA	81.7	40-130		12/16/24 22:54
13C6-PFDA	86.9	40-130		12/16/24 22:54
13C7-PFUnA	81.6	30-130		12/16/24 22:54
13C2-PFDoA	77.4	10-130		12/16/24 22:54
13C2-PFTeDA	77.9	10-130		12/16/24 22:54
13C3-PFBS	88.1	40-135		12/16/24 22:54
13C3-PFHxS	84.3	40-130		12/16/24 22:54
13C8-PFOS	84.7	40-130		12/16/24 22:54
13C2-4:2FTS	113	40-200		12/16/24 22:54
13C2-6:2FTS	102	40-200		12/16/24 22:54
13C2-8:2FTS	83.3	40-300		12/16/24 22:54
13C8-PFOSA	87.0	40-130		12/16/24 22:54
D3-NMeFOSA	72.6	10-130		12/16/24 22:54
D5-NEtFOSA	69.8	10-130		12/16/24 22:54
D3-NMeFOSAA	86.1	40-170		12/16/24 22:54
D5-NEtFOSAA	83.2	25-135		12/16/24 22:54
D7-NMeFOSE	76.0	10-130		12/16/24 22:54
D9-NEtFOSE	72.3	10-130		12/16/24 22:54
13C3-HFPO-DA	94.2	40-130		12/16/24 22:54

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-8 | Sampled: 12/3/2024 13:40

Sample ID: 24L0334-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	79	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoropentanoic acid (PFPeA)	23	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorohexanoic acid (PFHxA)	17	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoroheptanoic acid (PFHpA)	7.8	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorooctanoic acid (PFOA)	44	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorononanoic acid (PFNA)	3.6	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorobutanesulfonic acid (PFBS)	5.0	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorohexanesulfonic acid (PFHxS)	5.2	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorooctanesulfonic acid (PFOS)	4.5	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-8 | Sampled: 12/3/2024 13:40

Sample ID: 24L0334-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	12/12/24	12/16/24 23:04	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.6	5-130		12/16/24 23:04
13C5-PFPeA	84.2	40-130		12/16/24 23:04
13C5-PFHxA	84.1	40-130		12/16/24 23:04
13C4-PFHpA	87.7	40-130		12/16/24 23:04
13C8-PFOA	79.8	40-130		12/16/24 23:04
13C9-PFNA	78.4	40-130		12/16/24 23:04
13C6-PFDA	74.3	40-130		12/16/24 23:04
13C7-PFUnA	67.0	30-130		12/16/24 23:04
13C2-PFDoA	62.2	10-130		12/16/24 23:04
13C2-PFTeDA	55.0	10-130		12/16/24 23:04
13C3-PFBS	83.5	40-135		12/16/24 23:04
13C3-PFHxS	80.8	40-130		12/16/24 23:04
13C8-PFOS	79.4	40-130		12/16/24 23:04
13C2-4:2FTS	140	40-200		12/16/24 23:04
13C2-6:2FTS	98.3	40-200		12/16/24 23:04
13C2-8:2FTS	71.4	40-300		12/16/24 23:04
13C8-PFOSA	72.4	40-130		12/16/24 23:04
D3-NMeFOSA	58.3	10-130		12/16/24 23:04
D5-NEtFOSA	56.2	10-130		12/16/24 23:04
D3-NMeFOSAA	68.4	40-170		12/16/24 23:04
D5-NEtFOSAA	63.9	25-135		12/16/24 23:04
D7-NMeFOSE	59.9	10-130		12/16/24 23:04
D9-NEtFOSE	57.2	10-130		12/16/24 23:04
13C3-HFPO-DA	91.6	40-130		12/16/24 23:04

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-7 | Sampled: 12/3/2024 14:35

Sample ID: 24L0334-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorooctanoic acid (PFOA)	5.5	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-7 | Sampled: 12/3/2024 14:35

Sample ID: 24L0334-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:31	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	82.4	5-130		12/16/24 23:31
13C5-PFPeA	83.4	40-130		12/16/24 23:31
13C5-PFHxA	82.8	40-130		12/16/24 23:31
13C4-PFHpA	87.1	40-130		12/16/24 23:31
13C8-PFOA	79.2	40-130		12/16/24 23:31
13C9-PFNA	85.2	40-130		12/16/24 23:31
13C6-PFDA	82.0	40-130		12/16/24 23:31
13C7-PFUnA	76.2	30-130		12/16/24 23:31
13C2-PFDoA	65.7	10-130		12/16/24 23:31
13C2-PFTeDA	60.7	10-130		12/16/24 23:31
13C3-PFBS	82.2	40-135		12/16/24 23:31
13C3-PFHxS	78.7	40-130		12/16/24 23:31
13C8-PFOS	77.0	40-130		12/16/24 23:31
13C2-4:2FTS	104	40-200		12/16/24 23:31
13C2-6:2FTS	92.1	40-200		12/16/24 23:31
13C2-8:2FTS	69.4	40-300		12/16/24 23:31
13C8-PFOSA	76.8	40-130		12/16/24 23:31
D3-NMeFOSA	65.3	10-130		12/16/24 23:31
D5-NEtFOSA	58.4	10-130		12/16/24 23:31
D3-NMeFOSAA	69.5	40-170		12/16/24 23:31
D5-NEtFOSAA	68.3	25-135		12/16/24 23:31
D7-NMeFOSE	66.7	10-130		12/16/24 23:31
D9-NEtFOSE	64.0	10-130		12/16/24 23:31
13C3-HFPO-DA	93.1	40-130		12/16/24 23:31

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-6 | Sampled: 12/3/2024 16:40

Sample ID: 24L0334-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoropentanoic acid (PFPeA)	11	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorohexanoic acid (PFHxA)	7.6	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoroheptanoic acid (PFHpA)	2.9	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorooctanoic acid (PFOA)	9.2	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorononanoic acid (PFNA)	2.8	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorobutanesulfonic acid (PFBS)	2.2	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorohexanesulfonic acid (PFHxS)	11	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorooctanesulfonic acid (PFOS)	2.8	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-6 | Sampled: 12/3/2024 16:40

Sample ID: 24L0334-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:40	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.0	5-130		12/16/24 23:40
13C5-PFPeA	82.2	40-130		12/16/24 23:40
13C5-PFHxA	80.8	40-130		12/16/24 23:40
13C4-PFHpA	85.3	40-130		12/16/24 23:40
13C8-PFOA	75.0	40-130		12/16/24 23:40
13C9-PFNA	74.9	40-130		12/16/24 23:40
13C6-PFDA	75.4	40-130		12/16/24 23:40
13C7-PFUnA	66.2	30-130		12/16/24 23:40
13C2-PFDoA	60.7	10-130		12/16/24 23:40
13C2-PFTeDA	55.9	10-130		12/16/24 23:40
13C3-PFBS	79.8	40-135		12/16/24 23:40
13C3-PFHxS	76.2	40-130		12/16/24 23:40
13C8-PFOS	75.1	40-130		12/16/24 23:40
13C2-4:2FTS	106	40-200		12/16/24 23:40
13C2-6:2FTS	84.8	40-200		12/16/24 23:40
13C2-8:2FTS	66.1	40-300		12/16/24 23:40
13C8-PFOSA	80.9	40-130		12/16/24 23:40
D3-NMeFOSA	66.8	10-130		12/16/24 23:40
D5-NEtFOSA	62.7	10-130		12/16/24 23:40
D3-NMeFOSAA	72.3	40-170		12/16/24 23:40
D5-NEtFOSAA	66.0	25-135		12/16/24 23:40
D7-NMeFOSE	68.0	10-130		12/16/24 23:40
D9-NEtFOSE	63.5	10-130		12/16/24 23:40
13C3-HFPO-DA	91.7	40-130		12/16/24 23:40

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-9 | Sampled: 12/3/2024 18:10

Sample ID: 24L0334-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	9.6	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoropentanoic acid (PFPeA)	4.4	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorohexanoic acid (PFHxA)	4.0	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoroheptanoic acid (PFHpA)	2.0	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorooctanoic acid (PFOA)	11	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorobutanesulfonic acid (PFBS)	11	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-9 | Sampled: 12/3/2024 18:10

Sample ID: 24L0334-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/16/24 23:50	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	84.6	5-130		12/16/24 23:50
13C5-PFPeA	82.1	40-130		12/16/24 23:50
13C5-PFHxA	84.0	40-130		12/16/24 23:50
13C4-PFHpA	88.4	40-130		12/16/24 23:50
13C8-PFOA	76.9	40-130		12/16/24 23:50
13C9-PFNA	79.6	40-130		12/16/24 23:50
13C6-PFDA	83.7	40-130		12/16/24 23:50
13C7-PFUnA	75.4	30-130		12/16/24 23:50
13C2-PFDoA	68.9	10-130		12/16/24 23:50
13C2-PFTeDA	62.6	10-130		12/16/24 23:50
13C3-PFBS	82.6	40-135		12/16/24 23:50
13C3-PFHxS	82.7	40-130		12/16/24 23:50
13C8-PFOS	78.3	40-130		12/16/24 23:50
13C2-4:2FTS	124	40-200		12/16/24 23:50
13C2-6:2FTS	99.5	40-200		12/16/24 23:50
13C2-8:2FTS	79.6	40-300		12/16/24 23:50
13C8-PFOSA	76.5	40-130		12/16/24 23:50
D3-NMeFOSA	68.5	10-130		12/16/24 23:50
D5-NEtFOSA	62.1	10-130		12/16/24 23:50
D3-NMeFOSAA	70.5	40-170		12/16/24 23:50
D5-NEtFOSAA	74.4	25-135		12/16/24 23:50
D7-NMeFOSE	64.0	10-130		12/16/24 23:50
D9-NEtFOSE	61.3	10-130		12/16/24 23:50
13C3-HFPO-DA	91.1	40-130		12/16/24 23:50

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: SBMW-1 | Sampled: 12/3/2024 14:50

Sample ID: 24L0334-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: SBMW-1 | Sampled: 12/3/2024 14:50

Sample ID: 24L0334-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/16/24 23:59	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	82.1	5-130		12/16/24 23:59
13C5-PFPeA	83.1	40-130		12/16/24 23:59
13C5-PFHxA	82.2	40-130		12/16/24 23:59
13C4-PFHpA	87.2	40-130		12/16/24 23:59
13C8-PFOA	78.5	40-130		12/16/24 23:59
13C9-PFNA	79.9	40-130		12/16/24 23:59
13C6-PFDA	79.6	40-130		12/16/24 23:59
13C7-PFUnA	73.3	30-130		12/16/24 23:59
13C2-PFDoA	67.0	10-130		12/16/24 23:59
13C2-PFTeDA	63.3	10-130		12/16/24 23:59
13C3-PFBS	81.6	40-135		12/16/24 23:59
13C3-PFHxS	82.9	40-130		12/16/24 23:59
13C8-PFOS	76.7	40-130		12/16/24 23:59
13C2-4:2FTS	89.9	40-200		12/16/24 23:59
13C2-6:2FTS	87.1	40-200		12/16/24 23:59
13C2-8:2FTS	79.5	40-300		12/16/24 23:59
13C8-PFOSA	78.3	40-130		12/16/24 23:59
D3-NMeFOSA	51.1	10-130		12/16/24 23:59
D5-NEtFOSA	45.6	10-130		12/16/24 23:59
D3-NMeFOSAA	79.1	40-170		12/16/24 23:59
D5-NEtFOSAA	74.8	25-135		12/16/24 23:59
D7-NMeFOSE	64.3	10-130		12/16/24 23:59
D9-NEtFOSE	61.7	10-130		12/16/24 23:59
13C3-HFPO-DA	96.0	40-130		12/16/24 23:59

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-10 | Sampled: 12/3/2024 17:30

Sample ID: 24L0334-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-10 | Sampled: 12/3/2024 17:30

Sample ID: 24L0334-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	12/12/24	12/17/24 0:08	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	84.0	5-130		12/17/24 0:08
13C5-PFPeA	81.2	40-130		12/17/24 0:08
13C5-PFHxA	84.5	40-130		12/17/24 0:08
13C4-PFHpA	84.6	40-130		12/17/24 0:08
13C8-PFOA	80.8	40-130		12/17/24 0:08
13C9-PFNA	82.1	40-130		12/17/24 0:08
13C6-PFDA	83.6	40-130		12/17/24 0:08
13C7-PFUnA	74.9	30-130		12/17/24 0:08
13C2-PFDoA	70.6	10-130		12/17/24 0:08
13C2-PFTeDA	65.6	10-130		12/17/24 0:08
13C3-PFBS	85.0	40-135		12/17/24 0:08
13C3-PFHxS	80.1	40-130		12/17/24 0:08
13C8-PFOS	77.2	40-130		12/17/24 0:08
13C2-4:2FTS	87.8	40-200		12/17/24 0:08
13C2-6:2FTS	86.6	40-200		12/17/24 0:08
13C2-8:2FTS	79.1	40-300		12/17/24 0:08
13C8-PFOSA	80.0	40-130		12/17/24 0:08
D3-NMeFOSA	69.6	10-130		12/17/24 0:08
D5-NEtFOSA	70.0	10-130		12/17/24 0:08
D3-NMeFOSAA	77.0	40-170		12/17/24 0:08
D5-NEtFOSAA	74.4	25-135		12/17/24 0:08
D7-NMeFOSE	73.3	10-130		12/17/24 0:08
D9-NEtFOSE	71.7	10-130		12/17/24 0:08
13C3-HFPO-DA	90.9	40-130		12/17/24 0:08

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: OB-6-100 | Sampled: 12/4/2024 12:15

Sample ID: 24L0334-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoropentanoic acid (PFPeA)	ND	2.9	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorohexanoic acid (PFHxA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorooctanoic acid (PFOA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorononanoic acid (PFNA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorodecanoic acid (PFDA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorododecanoic acid (PFDoA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-MeFOSAA (NMeFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-EtFOSAA (NEtFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	14	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	14	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
9Cl-PF3ONS (F53B Minor)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
11Cl-PF3OUdS (F53B Major)	ND	5.8	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.2	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	36	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	36	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.9	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.9	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: OB-6-100 | Sampled: 12/4/2024 12:15

Sample ID: 24L0334-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.9	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.9	ng/L	1		EPA 1633	12/19/24	12/23/24 15:52	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	81.9	5-130		12/23/24 15:52
13C5-PFPeA	99.5	40-130		12/23/24 15:52
13C5-PFHxA	102	40-130		12/23/24 15:52
13C4-PFHpA	103	40-130		12/23/24 15:52
13C8-PFOA	103	40-130		12/23/24 15:52
13C9-PFNA	98.2	40-130		12/23/24 15:52
13C6-PFDA	98.1	40-130		12/23/24 15:52
13C7-PFUnA	99.2	30-130		12/23/24 15:52
13C2-PFDoA	90.9	10-130		12/23/24 15:52
13C2-PFTeDA	80.6	10-130		12/23/24 15:52
13C3-PFBS	97.3	40-135		12/23/24 15:52
13C3-PFHxS	97.2	40-130		12/23/24 15:52
13C8-PFOS	95.8	40-130		12/23/24 15:52
13C2-4:2FTS	133	40-200		12/23/24 15:52
13C2-6:2FTS	127	40-200		12/23/24 15:52
13C2-8:2FTS	95.1	40-300		12/23/24 15:52
13C8-PFOSA	93.3	40-130		12/23/24 15:52
D3-NMeFOSA	81.2	10-130		12/23/24 15:52
D5-NEtFOSA	81.7	10-130		12/23/24 15:52
D3-NMeFOSAA	81.4	40-170		12/23/24 15:52
D5-NEtFOSAA	83.1	25-135		12/23/24 15:52
D7-NMeFOSE	90.4	10-130		12/23/24 15:52
D9-NEtFOSE	89.1	10-130		12/23/24 15:52
13C3-HFPO-DA	103	40-130		12/23/24 15:52

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: SBW | Sampled: 12/4/2024 09:40

Sample ID: 24L0334-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoropentanoic acid (PFPeA)	4.3	3.2	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorohexanoic acid (PFHxA)	8.1	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoroheptanoic acid (PFHpA)	2.0	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorooctanoic acid (PFOA)	6.9	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorononanoic acid (PFNA)	7.4	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorobutanesulfonic acid (PFBS)	7.0	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoropentanesulfonic acid (PFPeS)	7.6	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorohexanesulfonic acid (PFHxS)	76	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoroheptanesulfonic acid (PFHpS)	3.9	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorooctanesulfonic acid (PFOS)	72	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: SBW | Sampled: 12/4/2024 09:40

Sample ID: 24L0334-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/23/24 16:01	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.9	5-130		12/23/24 16:01
13C5-PFPeA	92.9	40-130		12/23/24 16:01
13C5-PFHxA	92.8	40-130		12/23/24 16:01
13C4-PFHpA	94.1	40-130		12/23/24 16:01
13C8-PFOA	93.9	40-130		12/23/24 16:01
13C9-PFNA	88.6	40-130		12/23/24 16:01
13C6-PFDA	88.6	40-130		12/23/24 16:01
13C7-PFUnA	92.3	30-130		12/23/24 16:01
13C2-PFDoA	85.7	10-130		12/23/24 16:01
13C2-PFTeDA	84.1	10-130		12/23/24 16:01
13C3-PFBS	90.6	40-135		12/23/24 16:01
13C3-PFHxS	88.8	40-130		12/23/24 16:01
13C8-PFOS	86.3	40-130		12/23/24 16:01
13C2-4:2FTS	113	40-200		12/23/24 16:01
13C2-6:2FTS	107	40-200		12/23/24 16:01
13C2-8:2FTS	86.9	40-300		12/23/24 16:01
13C8-PFOSA	92.2	40-130		12/23/24 16:01
D3-NMeFOSA	83.9	10-130		12/23/24 16:01
D5-NEtFOSA	89.3	10-130		12/23/24 16:01
D3-NMeFOSAA	80.0	40-170		12/23/24 16:01
D5-NEtFOSAA	77.2	25-135		12/23/24 16:01
D7-NMeFOSE	93.3	10-130		12/23/24 16:01
D9-NEtFOSE	96.8	10-130		12/23/24 16:01
13C3-HFPO-DA	97.6	40-130		12/23/24 16:01

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-5 | Sampled: 12/4/2024 10:20

Sample ID: 24L0334-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoropentanoic acid (PFPeA)	9.5	3.0	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorohexanoic acid (PFHxA)	15	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoroheptanoic acid (PFHpA)	4.2	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorooctanoic acid (PFOA)	12	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorononanoic acid (PFNA)	20	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorobutanesulfonic acid (PFBS)	4.9	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoropentanesulfonic acid (PFPeS)	5.2	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorohexanesulfonic acid (PFHxS)	63	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoroheptanesulfonic acid (PFHpS)	4.5	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorooctanesulfonic acid (PFOS)	110	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: BMW-5 | Sampled: 12/4/2024 10:20

Sample ID: 24L0334-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/19/24	12/23/24 16:11	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.9	5-130		12/23/24 16:11
13C5-PFPeA	83.8	40-130		12/23/24 16:11
13C5-PFHxA	83.5	40-130		12/23/24 16:11
13C4-PFHpA	79.5	40-130		12/23/24 16:11
13C8-PFOA	82.3	40-130		12/23/24 16:11
13C9-PFNA	78.7	40-130		12/23/24 16:11
13C6-PFDA	73.7	40-130		12/23/24 16:11
13C7-PFUnA	67.6	30-130		12/23/24 16:11
13C2-PFDoA	61.5	10-130		12/23/24 16:11
13C2-PFTeDA	48.9	10-130		12/23/24 16:11
13C3-PFBS	81.3	40-135		12/23/24 16:11
13C3-PFHxS	76.6	40-130		12/23/24 16:11
13C8-PFOS	74.1	40-130		12/23/24 16:11
13C2-4:2FTS	195	40-200		12/23/24 16:11
13C2-6:2FTS	113	40-200		12/23/24 16:11
13C2-8:2FTS	73.3	40-300		12/23/24 16:11
13C8-PFOSA	86.8	40-130		12/23/24 16:11
D3-NMeFOSA	70.0	10-130		12/23/24 16:11
D5-NEtFOSA	60.3	10-130		12/23/24 16:11
D3-NMeFOSAA	64.7	40-170		12/23/24 16:11
D5-NEtFOSAA	58.9	25-135		12/23/24 16:11
D7-NMeFOSE	64.2	10-130		12/23/24 16:11
D9-NEtFOSE	54.6	10-130		12/23/24 16:11
13C3-HFPO-DA	85.1	40-130		12/23/24 16:11

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-2 | Sampled: 12/4/2024 11:00

Sample ID: 24L0334-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorooctanoic acid (PFOA)	2.1	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorononanoic acid (PFNA)	1.7	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorobutanesulfonic acid (PFBS)	2.2	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorohexanesulfonic acid (PFHxS)	15	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorooctanesulfonic acid (PFOS)	19	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-2 | Sampled: 12/4/2024 11:00

Sample ID: 24L0334-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:23	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	51.1	5-130		12/20/24 20:23
13C5-PFPeA	57.9	40-130		12/20/24 20:23
13C5-PFHxA	55.1	40-130		12/20/24 20:23
13C4-PFHpA	54.8	40-130		12/20/24 20:23
13C8-PFOA	56.4	40-130		12/20/24 20:23
13C9-PFNA	56.2	40-130		12/20/24 20:23
13C6-PFDA	54.5	40-130		12/20/24 20:23
13C7-PFUnA	52.0	30-130		12/20/24 20:23
13C2-PFDoA	52.1	10-130		12/20/24 20:23
13C2-PFTeDA	48.4	10-130		12/20/24 20:23
13C3-PFBS	52.5	40-135		12/20/24 20:23
13C3-PFHxS	52.3	40-130		12/20/24 20:23
13C8-PFOS	53.1	40-130		12/20/24 20:23
13C2-4:2FTS	55.5	40-200		12/20/24 20:23
13C2-6:2FTS	59.9	40-200		12/20/24 20:23
13C2-8:2FTS	62.9	40-300		12/20/24 20:23
13C8-PFOSA	53.8	40-130		12/20/24 20:23
D3-NMeFOSA	48.8	10-130		12/20/24 20:23
D5-NEtFOSA	46.2	10-130		12/20/24 20:23
D3-NMeFOSAA	54.7	40-170		12/20/24 20:23
D5-NEtFOSAA	39.4	25-135		12/20/24 20:23
D7-NMeFOSE	52.7	10-130		12/20/24 20:23
D9-NEtFOSE	54.0	10-130		12/20/24 20:23
13C3-HFPO-DA	58.5	40-130		12/20/24 20:23

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-1 | Sampled: 12/4/2024 11:20

Sample ID: 24L0334-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorohexanoic acid (PFHxA)	1.7	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorooctanoic acid (PFOA)	2.7	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-1 | Sampled: 12/4/2024 11:20

Sample ID: 24L0334-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	12/19/24	12/20/24 20:32	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	92.7	5-130		12/20/24 20:32
13C5-PFPeA	98.4	40-130		12/20/24 20:32
13C5-PFHxA	93.7	40-130		12/20/24 20:32
13C4-PFHpA	95.4	40-130		12/20/24 20:32
13C8-PFOA	98.8	40-130		12/20/24 20:32
13C9-PFNA	103	40-130		12/20/24 20:32
13C6-PFDA	86.0	40-130		12/20/24 20:32
13C7-PFUnA	85.0	30-130		12/20/24 20:32
13C2-PFDoA	77.3	10-130		12/20/24 20:32
13C2-PFTeDA	59.7	10-130		12/20/24 20:32
13C3-PFBS	101	40-135		12/20/24 20:32
13C3-PFHxS	103	40-130		12/20/24 20:32
13C8-PFOS	84.7	40-130		12/20/24 20:32
13C2-4:2FTS	97.1	40-200		12/20/24 20:32
13C2-6:2FTS	116	40-200		12/20/24 20:32
13C2-8:2FTS	99.9	40-300		12/20/24 20:32
13C8-PFOSA	85.9	40-130		12/20/24 20:32
D3-NMeFOSA	81.6	10-130		12/20/24 20:32
D5-NEtFOSA	73.8	10-130		12/20/24 20:32
D3-NMeFOSAA	84.6	40-170		12/20/24 20:32
D5-NEtFOSAA	71.7	25-135		12/20/24 20:32
D7-NMeFOSE	78.1	10-130		12/20/24 20:32
D9-NEtFOSE	76.9	10-130		12/20/24 20:32
13C3-HFPO-DA	105	40-130		12/20/24 20:32

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-6 | Sampled: 12/4/2024 12:05

Sample ID: 24L0334-16

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoropentanoic acid (PFPeA)	5.3	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorohexanoic acid (PFHxA)	6.1	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoroheptanoic acid (PFHpA)	2.0	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorooctanoic acid (PFOA)	4.7	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorononanoic acid (PFNA)	2.9	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorobutanesulfonic acid (PFBS)	5.3	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoropentanesulfonic acid (PFPeS)	6.2	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorohexanesulfonic acid (PFHxS)	74	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoroheptanesulfonic acid (PFHpS)	3.2	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorooctanesulfonic acid (PFOS)	160	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-6 | Sampled: 12/4/2024 12:05

Sample ID: 24L0334-16

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:36	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	93.6	5-130		12/12/24 20:36
13C5-PFPeA	89.2	40-130		12/12/24 20:36
13C5-PFHxA	93.4	40-130		12/12/24 20:36
13C4-PFHpA	87.8	40-130		12/12/24 20:36
13C8-PFOA	96.3	40-130		12/12/24 20:36
13C9-PFNA	90.7	40-130		12/12/24 20:36
13C6-PFDA	89.8	40-130		12/12/24 20:36
13C7-PFUnA	92.3	30-130		12/12/24 20:36
13C2-PFDoA	87.9	10-130		12/12/24 20:36
13C2-PFTeDA	84.3	10-130		12/12/24 20:36
13C3-PFBS	95.7	40-135		12/12/24 20:36
13C3-PFHxS	88.2	40-130		12/12/24 20:36
13C8-PFOS	91.5	40-130		12/12/24 20:36
13C2-4:2FTS	113	40-200		12/12/24 20:36
13C2-6:2FTS	96.6	40-200		12/12/24 20:36
13C2-8:2FTS	92.9	40-300		12/12/24 20:36
13C8-PFOSA	82.0	40-130		12/12/24 20:36
D3-NMeFOSA	68.7	10-130		12/12/24 20:36
D5-NEtFOSA	67.0	10-130		12/12/24 20:36
D3-NMeFOSAA	108	40-170		12/12/24 20:36
D5-NEtFOSAA	132	25-135		12/12/24 20:36
D7-NMeFOSE	64.1	10-130		12/12/24 20:36
D9-NEtFOSE	65.9	10-130		12/12/24 20:36
13C3-HFPO-DA	95.8	40-130		12/12/24 20:36

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-7 | Sampled: 12/4/2024 12:20

Sample ID: 24L0334-17

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorohexanoic acid (PFHxA)	4.4	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoroheptanoic acid (PFHpA)	1.9	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorooctanoic acid (PFOA)	6.3	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorobutanesulfonic acid (PFBS)	6.0	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoropentanesulfonic acid (PFPeS)	12	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorohexanesulfonic acid (PFHxS)	120	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoroheptanesulfonic acid (PFHpS)	5.2	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorooctanesulfonic acid (PFOS)	250	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-7 | Sampled: 12/4/2024 12:20

Sample ID: 24L0334-17

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 20:46	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	87.1	5-130		12/12/24 20:46
13C5-PFPeA	85.6	40-130		12/12/24 20:46
13C5-PFHxA	86.8	40-130		12/12/24 20:46
13C4-PFHpA	84.3	40-130		12/12/24 20:46
13C8-PFOA	89.4	40-130		12/12/24 20:46
13C9-PFNA	85.7	40-130		12/12/24 20:46
13C6-PFDA	85.9	40-130		12/12/24 20:46
13C7-PFUnA	83.1	30-130		12/12/24 20:46
13C2-PFDoA	80.2	10-130		12/12/24 20:46
13C2-PFTeDA	74.6	10-130		12/12/24 20:46
13C3-PFBS	93.7	40-135		12/12/24 20:46
13C3-PFHxS	84.9	40-130		12/12/24 20:46
13C8-PFOS	88.5	40-130		12/12/24 20:46
13C2-4:2FTS	115	40-200		12/12/24 20:46
13C2-6:2FTS	94.3	40-200		12/12/24 20:46
13C2-8:2FTS	86.0	40-300		12/12/24 20:46
13C8-PFOSA	77.2	40-130		12/12/24 20:46
D3-NMeFOSA	64.4	10-130		12/12/24 20:46
D5-NEtFOSA	67.5	10-130		12/12/24 20:46
D3-NMeFOSAA	104	40-170		12/12/24 20:46
D5-NEtFOSAA	118	25-135		12/12/24 20:46
D7-NMeFOSE	63.3	10-130		12/12/24 20:46
D9-NEtFOSE	65.3	10-130		12/12/24 20:46
13C3-HFPO-DA	93.4	40-130		12/12/24 20:46

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-7 DUP | Sampled: 12/4/2024 12:25

Sample ID: 24L0334-18

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorohexanoic acid (PFHxA)	4.4	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoroheptanoic acid (PFHpA)	1.8	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorooctanoic acid (PFOA)	6.1	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorobutanesulfonic acid (PFBS)	5.8	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoropentanesulfonic acid (PFPeS)	10	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorohexanesulfonic acid (PFHxS)	110	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoroheptanesulfonic acid (PFHpS)	4.8	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorooctanesulfonic acid (PFOS)	240	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: PW-7 DUP | Sampled: 12/4/2024 12:25

Sample ID: 24L0334-18

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/10/24	12/12/24 20:55	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.8	5-130		12/12/24 20:55
13C5-PFPeA	93.2	40-130		12/12/24 20:55
13C5-PFHxA	95.3	40-130		12/12/24 20:55
13C4-PFHpA	94.7	40-130		12/12/24 20:55
13C8-PFOA	99.2	40-130		12/12/24 20:55
13C9-PFNA	93.3	40-130		12/12/24 20:55
13C6-PFDA	97.6	40-130		12/12/24 20:55
13C7-PFUnA	99.3	30-130		12/12/24 20:55
13C2-PFDoA	95.3	10-130		12/12/24 20:55
13C2-PFTeDA	87.6	10-130		12/12/24 20:55
13C3-PFBS	99.0	40-135		12/12/24 20:55
13C3-PFHxS	96.9	40-130		12/12/24 20:55
13C8-PFOS	95.8	40-130		12/12/24 20:55
13C2-4:2FTS	122	40-200		12/12/24 20:55
13C2-6:2FTS	105	40-200		12/12/24 20:55
13C2-8:2FTS	93.1	40-300		12/12/24 20:55
13C8-PFOSA	88.1	40-130		12/12/24 20:55
D3-NMeFOSA	74.9	10-130		12/12/24 20:55
D5-NEtFOSA	71.4	10-130		12/12/24 20:55
D3-NMeFOSAA	109	40-170		12/12/24 20:55
D5-NEtFOSAA	122	25-135		12/12/24 20:55
D7-NMeFOSE	71.5	10-130		12/12/24 20:55
D9-NEtFOSE	72.6	10-130		12/12/24 20:55
13C3-HFPO-DA	105	40-130		12/12/24 20:55

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: FB-1224 | Sampled: 12/4/2024 12:30

Sample ID: 24L0334-19

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1	PF-17	EPA 1633	12/10/24	12/12/24 21:04	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sagertown, PA | Sample Description: | Work Order: 24L0334

Date Received: 12/5/2024

Field Sample #: FB-1224 | Sampled: 12/4/2024 12:30

Sample ID: 24L0334-19

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	12/10/24	12/12/24 21:04	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	90.1		5-130		12/12/24 21:04
13C5-PFPeA	85.6		40-130		12/12/24 21:04
13C5-PFHxA	88.8		40-130		12/12/24 21:04
13C4-PFHpA	86.0		40-130		12/12/24 21:04
13C8-PFOA	87.8		40-130		12/12/24 21:04
13C9-PFNA	88.7		40-130		12/12/24 21:04
13C6-PFDA	84.4		40-130		12/12/24 21:04
13C7-PFUnA	87.8		30-130		12/12/24 21:04
13C2-PFDoA	82.2		10-130		12/12/24 21:04
13C2-PFTeDA	79.0		10-130		12/12/24 21:04
13C3-PFBS	92.4		40-135		12/12/24 21:04
13C3-PFHxS	88.2		40-130		12/12/24 21:04
13C8-PFOS	92.4		40-130		12/12/24 21:04
13C2-4:2FTS	106		40-200		12/12/24 21:04
13C2-6:2FTS	96.7		40-200		12/12/24 21:04
13C2-8:2FTS	91.8		40-300		12/12/24 21:04
13C8-PFOSA	77.9		40-130		12/12/24 21:04
D3-NMeFOSA	66.5		10-130		12/12/24 21:04
D5-NEtFOSA	70.7		10-130		12/12/24 21:04
D3-NMeFOSAA	108		40-170		12/12/24 21:04
D5-NEtFOSAA	**145**	*	25-135	PF-17	12/12/24 21:04
D7-NMeFOSE	65.9		10-130		12/12/24 21:04
D9-NEtFOSE	67.6		10-130		12/12/24 21:04
13C3-HFPO-DA	98.4		40-130		12/12/24 21:04

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0334-16 [PW-6]	B394066	494	4.00	12/10/24
24L0334-17 [PW-7]	B394066	516	4.00	12/10/24
24L0334-18 [PW-7 DUP]	B394066	497	4.00	12/10/24
24L0334-19 [FB-1224]	B394066	514	4.00	12/10/24

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0334-01 [BMW-1]	B394095	488	4.00	12/12/24
24L0334-02 [GM-24S]	B394095	498	4.00	12/12/24
24L0334-03 [GM-24S DUP]	B394095	503	4.00	12/12/24
24L0334-04 [GM-24D]	B394095	521	4.00	12/12/24
24L0334-05 [BMW-8]	B394095	516	4.00	12/12/24
24L0334-06 [BMW-7]	B394095	541	4.00	12/12/24
24L0334-07 [BMW-6]	B394095	541	4.00	12/12/24
24L0334-08 [BMW-9]	B394095	541	4.00	12/12/24
24L0334-09 [SBMW-1]	B394095	505	4.00	12/12/24
24L0334-10 [BMW-10]	B394095	484	4.00	12/12/24

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0334-11RE1 [OB-6-100]	B395061	553	4.00	12/19/24
24L0334-12RE1 [SBW]	B395061	495	4.00	12/19/24
24L0334-13RE1 [BMW-5]	B395061	526	4.00	12/19/24
24L0334-14RE1 [PW-2]	B395061	501	4.00	12/19/24
24L0334-15RE1 [PW-1]	B395061	485	4.00	12/19/24

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394066 - EPA 1633										
Blank (B394066-BLK1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*70.7*		ng/L	79.01		89.5	5-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394066 - EPA 1633										
Blank (B394066-BLK1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Surrogate: 13C5-PFPeA	*35.7*		ng/L	39.50		90.4	40-130			
Surrogate: 13C5-PFHxA	*18.2*		ng/L	19.75		92.2	40-130			
Surrogate: 13C4-PFHpA	*17.6*		ng/L	19.75		89.1	40-130			
Surrogate: 13C8-PFOA	*18.3*		ng/L	19.75		92.5	40-130			
Surrogate: 13C9-PFNA	*8.87*		ng/L	9.876		89.8	40-130			
Surrogate: 13C6-PFDA	*8.65*		ng/L	9.876		87.6	40-130			
Surrogate: 13C7-PFUnA	*8.43*		ng/L	9.876		85.3	30-130			
Surrogate: 13C2-PFDoA	*8.52*		ng/L	9.876		86.3	10-130			
Surrogate: 13C2-PFTeDA	*7.88*		ng/L	9.876		79.8	10-130			
Surrogate: 13C3-PFBS	*18.6*		ng/L	19.75		94.1	40-135			
Surrogate: 13C3-PFHxS	*18.2*		ng/L	19.75		92.2	40-130			
Surrogate: 13C8-PFOS	*17.3*		ng/L	19.75		87.7	40-130			
Surrogate: 13C2-4:2FTS	*43.8*		ng/L	39.50		111	40-200			
Surrogate: 13C2-6:2FTS	*37.1*		ng/L	39.50		93.8	40-200			
Surrogate: 13C2-8:2FTS	*34.6*		ng/L	39.50		87.5	40-300			
Surrogate: 13C8-PFOSA	*17.2*		ng/L	19.75		86.9	40-130			
Surrogate: D3-NMeFOSA	*15.8*		ng/L	19.75		80.0	10-130			
Surrogate: D5-NEtFOSA	*15.5*		ng/L	19.75		78.7	10-130			
Surrogate: D3-NMeFOSAA	*45.0*		ng/L	39.50		114	40-170			
Surrogate: D5-NEtFOSAA	*45.9*		ng/L	39.50		116	25-135			
Surrogate: D7-NMeFOSE	*150*		ng/L	197.5		75.7	10-130			
Surrogate: D9-NEtFOSE	*159*		ng/L	197.5		80.3	10-130			
Surrogate: 13C3-HFPO-DA	*77.2*		ng/L	79.01		97.7	40-130			
LCS (B394066-BS1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Perfluorobutanoic acid (PFBA)	91.3	6.3	ng/L	79.13		115	70-140			
Perfluoropentanoic acid (PFPeA)	47.4	3.2	ng/L	39.56		120	65-135			
Perfluorohexanoic acid (PFHxA)	23.0	1.6	ng/L	19.78		116	70-145			
Perfluoroheptanoic acid (PFHpA)	21.4	1.6	ng/L	19.78		108	70-150			
Perfluorooctanoic acid (PFOA)	23.0	1.6	ng/L	19.78		116	70-150			
Perfluorononanoic acid (PFNA)	23.8	1.6	ng/L	19.78		120	70-150			
Perfluorodecanoic acid (PFDA)	23.7	1.6	ng/L	19.78		120	70-140			
Perfluoroundecanoic acid (PFUnA)	23.7	1.6	ng/L	19.78		120	70-145			
Perfluorododecanoic acid (PFDoA)	21.7	1.6	ng/L	19.78		110	70-140			
Perfluorotridecanoic acid (PFTrDA)	22.9	1.6	ng/L	19.78		116	65-140			
Perfluorotetradecanoic acid (PFTeDA)	23.4	1.6	ng/L	19.78		118	60-140			
Perfluorobutanesulfonic acid (PFBS)	20.4	1.6	ng/L	19.78		103	60-145			
Perfluoropentanesulfonic acid (PFPeS)	22.3	1.6	ng/L	19.78		113	65-140			
Perfluorohexanesulfonic acid (PFHxS)	18.8	1.6	ng/L	19.78		94.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	23.4	1.6	ng/L	19.78		118	70-150			
Perfluorooctanesulfonic acid (PFOS)	21.3	1.6	ng/L	19.78		108	55-150			
Perfluorononanesulfonic acid (PFNS)	22.9	1.6	ng/L	19.78		116	65-145			
Perfluorodecanesulfonic acid (PFDS)	21.9	1.6	ng/L	19.78		111	60-145			
Perfluorododecanesulfonic acid (PFDoS)	20.8	1.6	ng/L	19.78		105	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	93.3	6.3	ng/L	79.13		118	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	97.5	6.3	ng/L	79.13		123	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	104	6.3	ng/L	79.13		131	60-150			
Perfluorooctanesulfonamide (PFOSA)	22.0	1.6	ng/L	19.78		111	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.2	1.6	ng/L	19.78		117	60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394066 - EPA 1633										
LCS (B394066-BS1)				Prepared: 12/10/24 Analyzed: 12/11/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	23.5	1.6	ng/L	19.78		119	65-145			
N-MeFOSAA (NMeFOSAA)	20.9	1.6	ng/L	19.78		106	50-140			
N-EtFOSAA (NEtFOSAA)	21.5	1.6	ng/L	19.78		108	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	231	16	ng/L	197.8		117	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	226	16	ng/L	197.8		114	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	92.6	6.3	ng/L	79.13		117	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	85.0	6.3	ng/L	79.13		107	65-145			
9Cl-PF3ONS (F53B Minor)	91.0	6.3	ng/L	79.13		115	70-155			
11Cl-PF3OUdS (F53B Major)	92.5	6.3	ng/L	79.13		117	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	102	7.9	ng/L	98.91		103	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	567	40	ng/L	494.6		115	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	579	40	ng/L	494.6		117	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	42.5	3.2	ng/L	39.56		108	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	43.0	3.2	ng/L	39.56		109	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	46.9	3.2	ng/L	39.56		118	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.7	3.2	ng/L	39.56		126	50-150			
Surrogate: 13C4-PFBA	*72.9*		ng/L	79.13		92.1	5-130			
Surrogate: 13C5-PFPeA	*35.0*		ng/L	39.56		88.5	40-130			
Surrogate: 13C5-PFHxA	*17.9*		ng/L	19.78		90.3	40-130			
Surrogate: 13C4-PFHpA	*17.8*		ng/L	19.78		90.1	40-130			
Surrogate: 13C8-PFOA	*19.0*		ng/L	19.78		96.2	40-130			
Surrogate: 13C9-PFNA	*8.61*		ng/L	9.891		87.1	40-130			
Surrogate: 13C6-PFDA	*9.01*		ng/L	9.891		91.1	40-130			
Surrogate: 13C7-PFUnA	*8.89*		ng/L	9.891		89.9	30-130			
Surrogate: 13C2-PFDoA	*8.88*		ng/L	9.891		89.8	10-130			
Surrogate: 13C2-PFTeDA	*8.19*		ng/L	9.891		82.8	10-130			
Surrogate: 13C3-PFBS	*18.1*		ng/L	19.78		91.6	40-135			
Surrogate: 13C3-PFHxS	*18.8*		ng/L	19.78		94.9	40-130			
Surrogate: 13C8-PFOS	*17.5*		ng/L	19.78		88.5	40-130			
Surrogate: 13C2-4:2FTS	*41.0*		ng/L	39.56		104	40-200			
Surrogate: 13C2-6:2FTS	*38.5*		ng/L	39.56		97.2	40-200			
Surrogate: 13C2-8:2FTS	*34.9*		ng/L	39.56		88.2	40-300			
Surrogate: 13C8-PFOSA	*16.9*		ng/L	19.78		85.4	40-130			
Surrogate: D3-NMeFOSA	*14.0*		ng/L	19.78		70.7	10-130			
Surrogate: D5-NEtFOSA	*14.4*		ng/L	19.78		72.9	10-130			
Surrogate: D3-NMeFOSAA	*47.3*		ng/L	39.56		120	40-170			
Surrogate: D5-NEtFOSAA	*47.5*		ng/L	39.56		120	25-135			
Surrogate: D7-NMeFOSE	*152*		ng/L	197.8		77.0	10-130			
Surrogate: D9-NEtFOSE	*153*		ng/L	197.8		77.2	10-130			
Surrogate: 13C3-HFPO-DA	*76.7*		ng/L	79.13		96.9	40-130			
MRL Check (B394066-MRL1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Perfluorobutanoic acid (PFBA)	13.6	6.3	ng/L	12.66		107	70-140			
Perfluoropentanoic acid (PFPeA)	6.64	3.2	ng/L	6.328		105	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394066 - EPA 1633										
MRL Check (B394066-MRL1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Perfluorohexanoic acid (PFHxA)	3.41	1.6	ng/L	3.164		108	70-145			
Perfluoroheptanoic acid (PFHpA)	3.07	1.6	ng/L	3.164		97.1	70-150			
Perfluorooctanoic acid (PFOA)	3.54	1.6	ng/L	3.164		112	70-150			
Perfluorononanoic acid (PFNA)	3.38	1.6	ng/L	3.164		107	70-150			
Perfluorodecanoic acid (PFDA)	3.09	1.6	ng/L	3.164		97.6	70-140			
Perfluoroundecanoic acid (PFUnA)	3.53	1.6	ng/L	3.164		111	70-145			
Perfluorododecanoic acid (PFDoA)	3.41	1.6	ng/L	3.164		108	70-140			
Perfluorotridecanoic acid (PFTrDA)	3.54	1.6	ng/L	3.164		112	65-140			
Perfluorotetradecanoic acid (PFTeDA)	3.40	1.6	ng/L	3.164		107	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.83	1.6	ng/L	2.810		101	60-145			
Perfluoropentanesulfonic acid (PFPeS)	3.32	1.6	ng/L	2.974		112	65-140			
Perfluorohexanesulfonic acid (PFHxS)	3.03	1.6	ng/L	2.886		105	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	3.12	1.6	ng/L	3.012		104	70-150			
Perfluorooctanesulfonic acid (PFOS)	3.05	1.6	ng/L	2.936		104	55-150			
Perfluorononanesulfonic acid (PFNS)	2.91	1.6	ng/L	3.037		95.7	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.71	1.6	ng/L	3.050		89.0	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.70	1.6	ng/L	3.063		88.1	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	13.7	6.3	ng/L	11.86		116	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	13.7	6.3	ng/L	12.04		114	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	15.4	6.3	ng/L	12.15		126	60-150			
Perfluorooctanesulfonamide (PFOSA)	3.43	1.6	ng/L	3.164		108	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.29	1.6	ng/L	3.164		104	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	3.62	1.6	ng/L	3.164		114	65-145			
N-MeFOSAA (NMeFOSAA)	3.17	1.6	ng/L	3.164		100	50-140			
N-EtFOSAA (NEtFOSAA)	2.82	1.6	ng/L	3.164		89.0	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	34.2	16	ng/L	31.64		108	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	33.7	16	ng/L	31.64		107	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	13.7	6.3	ng/L	12.66		109	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	13.2	6.3	ng/L	11.96		110	65-145			
9Cl-PF3ONS (F53B Minor)	12.9	6.3	ng/L	11.81		110	70-155			
11Cl-PF3OUdS (F53B Major)	12.8	6.3	ng/L	11.93		107	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	13.7	7.9	ng/L	15.82		86.9	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	82.5	40	ng/L	79.10		104	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	83.5	40	ng/L	79.10		106	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	6.53	3.2	ng/L	5.645		116	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.61	3.2	ng/L	6.328		104	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	7.04	3.2	ng/L	6.328		111	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	7.90	3.2	ng/L	6.328		125	50-150			
Surrogate: 13C4-PFBA	*71.5*		ng/L	79.10		90.4	5-130			
Surrogate: 13C5-PFPeA	*35.0*		ng/L	39.55		88.4	40-130			
Surrogate: 13C5-PFHxA	*17.0*		ng/L	19.78		86.0	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394066 - EPA 1633										
MRL Check (B394066-MRL1)				Prepared: 12/10/24 Analyzed: 12/11/24						
Surrogate: 13C4-PFHpA	*17.3*		ng/L	19.78		87.3	40-130			
Surrogate: 13C8-PFOA	*18.4*		ng/L	19.78		93.1	40-130			
Surrogate: 13C9-PFNA	*8.35*		ng/L	9.888		84.5	40-130			
Surrogate: 13C6-PFDA	*8.98*		ng/L	9.888		90.8	40-130			
Surrogate: 13C7-PFUnA	*9.05*		ng/L	9.888		91.6	30-130			
Surrogate: 13C2-PFDoA	*8.39*		ng/L	9.888		84.9	10-130			
Surrogate: 13C2-PFTeDA	*8.05*		ng/L	9.888		81.5	10-130			
Surrogate: 13C3-PFBS	*18.3*		ng/L	19.78		92.3	40-135			
Surrogate: 13C3-PFHxS	*18.0*		ng/L	19.78		90.8	40-130			
Surrogate: 13C8-PFOS	*18.8*		ng/L	19.78		95.2	40-130			
Surrogate: 13C2-4:2FTS	*41.1*		ng/L	39.55		104	40-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	39.55		94.2	40-200			
Surrogate: 13C2-8:2FTS	*36.1*		ng/L	39.55		91.4	40-300			
Surrogate: 13C8-PFOSA	*16.0*		ng/L	19.78		80.9	40-130			
Surrogate: D3-NMeFOSA	*13.3*		ng/L	19.78		67.4	10-130			
Surrogate: D5-NEtFOSA	*14.0*		ng/L	19.78		70.8	10-130			
Surrogate: D3-NMeFOSAA	*47.3*		ng/L	39.55		120	40-170			
Surrogate: D5-NEtFOSAA	*48.4*		ng/L	39.55		122	25-135			
Surrogate: D7-NMeFOSE	*140*		ng/L	197.8		70.8	10-130			
Surrogate: D9-NEtFOSE	*140*		ng/L	197.8		70.8	10-130			
Surrogate: 13C3-HFPO-DA	*74.6*		ng/L	79.10		94.3	40-130			
Batch B394094 - EPA 1633										
Blank (B394094-BLK1)				Prepared: 12/17/24 Analyzed: 12/18/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394094 - EPA 1633										
Blank (B394094-BLK1)				Prepared: 12/17/24 Analyzed: 12/18/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*80.2*		ng/L	78.69		102	5-130			
Surrogate: 13C5-PFPeA	*39.9*		ng/L	39.35		101	40-130			
Surrogate: 13C5-PFHxA	*20.4*		ng/L	19.67		104	40-130			
Surrogate: 13C4-PFHpA	*20.3*		ng/L	19.67		103	40-130			
Surrogate: 13C8-PFOA	*20.4*		ng/L	19.67		104	40-130			
Surrogate: 13C9-PFNA	*10.2*		ng/L	9.836		104	40-130			
Surrogate: 13C6-PFDA	*9.94*		ng/L	9.836		101	40-130			
Surrogate: 13C7-PFUnA	*9.58*		ng/L	9.836		97.4	30-130			
Surrogate: 13C2-PFDoA	*8.62*		ng/L	9.836		87.6	10-130			
Surrogate: 13C2-PFTeDA	*7.13*		ng/L	9.836		72.5	10-130			
Surrogate: 13C3-PFBS	*20.3*		ng/L	19.67		103	40-135			
Surrogate: 13C3-PFHxS	*20.1*		ng/L	19.67		102	40-130			
Surrogate: 13C8-PFOS	*20.1*		ng/L	19.67		102	40-130			
Surrogate: 13C2-4:2FTS	*41.6*		ng/L	39.35		106	40-200			
Surrogate: 13C2-6:2FTS	*43.0*		ng/L	39.35		109	40-200			
Surrogate: 13C2-8:2FTS	*39.9*		ng/L	39.35		101	40-300			
Surrogate: 13C8-PFOSA	*17.8*		ng/L	19.67		90.7	40-130			
Surrogate: D3-NMeFOSA	*12.3*		ng/L	19.67		62.7	10-130			
Surrogate: D5-NEtFOSA	*12.2*		ng/L	19.67		62.1	10-130			
Surrogate: D3-NMeFOSAA	*39.7*		ng/L	39.35		101	40-170			
Surrogate: D5-NEtFOSAA	*38.8*		ng/L	39.35		98.5	25-135			
Surrogate: D7-NMeFOSE	*176*		ng/L	196.7		89.7	10-130			
Surrogate: D9-NEtFOSE	*172*		ng/L	196.7		87.6	10-130			
Surrogate: 13C3-HFPO-DA	*82.0*		ng/L	78.69		104	40-130			
Matrix Spike Dup (B394094-MSD1)	**Source: 24L0334-15**			Prepared: 12/17/24 Analyzed: 12/18/24						
Perfluorobutanoic acid (PFBA)	77.4	6.6	ng/L	82.33	1.61	92.1	70-140	2.81	25	
Perfluoropentanoic acid (PFPeA)	41.1	3.3	ng/L	41.16	2.92	92.7	65-135	1.71	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394094 - EPA 1633										
Matrix Spike Dup (B394094-MSD1)	**Source: 24L0334-15**			Prepared: 12/17/24 Analyzed: 12/18/24						
Perfluorohexanoic acid (PFHxA)	22.3	1.6	ng/L	20.58	1.72	100	70-145	4.29	25	
Perfluoroheptanoic acid (PFHpA)	19.4	1.6	ng/L	20.58	0.832	90.2	70-150	3.70	25	
Perfluorooctanoic acid (PFOA)	22.0	1.6	ng/L	20.58	2.95	92.6	70-150	0.907	25	
Perfluorononanoic acid (PFNA)	20.1	1.6	ng/L	20.58	ND	97.5	70-150	5.91	25	
Perfluorodecanoic acid (PFDA)	20.8	1.6	ng/L	20.58	ND	101	70-140	9.51	25	
Perfluoroundecanoic acid (PFUnA)	20.2	1.6	ng/L	20.58	ND	98.1	70-145	2.60	25	
Perfluorododecanoic acid (PFDoA)	20.0	1.6	ng/L	20.58	ND	97.1	70-140	2.33	25	
Perfluorotridecanoic acid (PFTrDA)	19.3	1.6	ng/L	20.58	ND	93.7	65-140	1.34	25	
Perfluorotetradecanoic acid (PFTeDA)	20.2	1.6	ng/L	20.58	ND	97.9	60-140	4.69	25	
Perfluorobutanesulfonic acid (PFBS)	19.1	1.6	ng/L	18.28	1.75	94.9	60-145	6.20	25	
Perfluoropentanesulfonic acid (PFPeS)	18.3	1.6	ng/L	19.35	ND	94.5	65-140	1.38	25	
Perfluorohexanesulfonic acid (PFHxS)	18.8	1.6	ng/L	18.77	1.13	93.9	65-145	3.00	25	
Perfluoroheptanesulfonic acid (PFHpS)	18.5	1.6	ng/L	19.59	ND	94.4	70-150	6.14	25	
Perfluorooctanesulfonic acid (PFOS)	19.5	1.6	ng/L	19.10	0.748	98.1	55-150	4.00	25	
Perfluorononanesulfonic acid (PFNS)	18.8	1.6	ng/L	19.76	ND	95.2	65-145	2.58	25	
Perfluorodecanesulfonic acid (PFDS)	17.9	1.6	ng/L	19.84	ND	90.3	60-145	1.29	25	
Perfluorododecanesulfonic acid (PFDoS)	16.1	1.6	ng/L	19.92	ND	80.8	50-145	1.41	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	78.2	6.6	ng/L	77.14	ND	101	70-145	4.25	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76.5	6.6	ng/L	78.29	ND	97.7	65-155	0.551	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	84.7	6.6	ng/L	79.04	ND	107	60-150	5.96	25	
Perfluorooctanesulfonamide (PFOSA)	20.3	1.6	ng/L	20.58	ND	98.6	70-145	2.46	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.5	1.6	ng/L	20.58	ND	99.5	60-150	1.89	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	19.6	1.6	ng/L	20.58	ND	95.1	65-145	3.92	25	
N-MeFOSAA (NMeFOSAA)	18.7	1.6	ng/L	20.58	ND	90.7	50-140	2.08	25	
N-EtFOSAA (NEtFOSAA)	20.1	1.6	ng/L	20.58	ND	97.7	70-145	6.24	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	205	16	ng/L	205.8	ND	99.8	70-145	5.40	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	203	16	ng/L	205.8	ND	98.4	70-135	1.34	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	82.6	6.6	ng/L	82.33	ND	100	70-140	0.806	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	70.2	6.6	ng/L	77.80	ND	90.2	65-145	1.25	25	
9Cl-PF3ONS (F53B Minor)	75.6	6.6	ng/L	76.81	ND	98.5	70-155	5.96	25	
11Cl-PF3OUdS (F53B Major)	73.0	6.6	ng/L	76.89	ND	94.9	55-160	5.86	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	92.6	8.2	ng/L	102.9	ND	90.0	65-130	3.95	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	475	41	ng/L	514.6	ND	92.3	70-135	3.48	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	507	41	ng/L	514.6	ND	98.5	50-145	7.82	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	34.8	3.3	ng/L	36.72	ND	94.8	70-140	1.88	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	38.4	3.3	ng/L	41.16	ND	93.2	55-140	6.74	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	39.2	3.3	ng/L	41.16	ND	95.3	60-150	1.39	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	41.5	3.3	ng/L	41.16	ND	101	50-150	6.15	25	
Surrogate: 13C4-PFBA	*78.9*		ng/L	82.33		95.9	5-130			
Surrogate: 13C5-PFPeA	*37.4*		ng/L	41.16		91.0	40-130			
Surrogate: 13C5-PFHxA	*18.5*		ng/L	20.58		89.9	40-130			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394094 - EPA 1633										
Matrix Spike Dup (B394094-MSD1)	**Source: 24L0334-15**			Prepared: 12/17/24 Analyzed: 12/18/24						
Surrogate: 13C4-PFHpA	*18.9*		ng/L	20.58		91.7	40-130			
Surrogate: 13C8-PFOA	*18.6*		ng/L	20.58		90.1	40-130			
Surrogate: 13C9-PFNA	*8.28*		ng/L	10.29		80.4	40-130			
Surrogate: 13C6-PFDA	*8.36*		ng/L	10.29		81.3	40-130			
Surrogate: 13C7-PFUnA	*8.22*		ng/L	10.29		79.8	30-130			
Surrogate: 13C2-PFDoA	*7.66*		ng/L	10.29		74.4	10-130			
Surrogate: 13C2-PFTeDA	*6.82*		ng/L	10.29		66.3	10-130			
Surrogate: 13C3-PFBS	*18.9*		ng/L	20.58		91.8	40-135			
Surrogate: 13C3-PFHxS	*18.1*		ng/L	20.58		87.9	40-130			
Surrogate: 13C8-PFOS	*17.4*		ng/L	20.58		84.3	40-130			
Surrogate: 13C2-4:2FTS	*32.1*		ng/L	41.16		77.9	40-200			
Surrogate: 13C2-6:2FTS	*33.7*		ng/L	41.16		81.9	40-200			
Surrogate: 13C2-8:2FTS	*29.4*		ng/L	41.16		71.3	40-300			
Surrogate: 13C8-PFOSA	*17.0*		ng/L	20.58		82.4	40-130			
Surrogate: D3-NMeFOSA	*15.0*		ng/L	20.58		73.1	10-130			
Surrogate: D5-NEtFOSA	*14.3*		ng/L	20.58		69.3	10-130			
Surrogate: D3-NMeFOSAA	*31.6*		ng/L	41.16		76.7	40-170			
Surrogate: D5-NEtFOSAA	*30.6*		ng/L	41.16		74.4	25-135			
Surrogate: D7-NMeFOSE	*150*		ng/L	205.8		72.7	10-130			
Surrogate: D9-NEtFOSE	*147*		ng/L	205.8		71.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.9*		ng/L	82.33		92.2	40-130			
Batch B394095 - EPA 1633										
Blank (B394095-BLK1)				Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
Blank (B394095-BLK1)				Prepared: 12/12/24 Analyzed: 12/16/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*85.1*		ng/L	79.18		108	5-130			
Surrogate: 13C5-PFPeA	*43.1*		ng/L	39.59		109	40-130			
Surrogate: 13C5-PFHxA	*20.9*		ng/L	19.80		105	40-130			
Surrogate: 13C4-PFHpA	*22.5*		ng/L	19.80		114	40-130			
Surrogate: 13C8-PFOA	*21.5*		ng/L	19.80		108	40-130			
Surrogate: 13C9-PFNA	*10.8*		ng/L	9.898		109	40-130			
Surrogate: 13C6-PFDA	*11.1*		ng/L	9.898		112	40-130			
Surrogate: 13C7-PFUnA	*10.3*		ng/L	9.898		104	30-130			
Surrogate: 13C2-PFDoA	*9.23*		ng/L	9.898		93.3	10-130			
Surrogate: 13C2-PFTeDA	*8.82*		ng/L	9.898		89.1	10-130			
Surrogate: 13C3-PFBS	*21.9*		ng/L	19.80		110	40-135			
Surrogate: 13C3-PFHxS	*20.8*		ng/L	19.80		105	40-130			
Surrogate: 13C8-PFOS	*20.6*		ng/L	19.80		104	40-130			
Surrogate: 13C2-4:2FTS	*45.2*		ng/L	39.59		114	40-200			
Surrogate: 13C2-6:2FTS	*40.9*		ng/L	39.59		103	40-200			
Surrogate: 13C2-8:2FTS	*36.3*		ng/L	39.59		91.7	40-300			
Surrogate: 13C8-PFOSA	*19.6*		ng/L	19.80		98.9	40-130			
Surrogate: D3-NMeFOSA	*16.7*		ng/L	19.80		84.6	10-130			
Surrogate: D5-NEtFOSA	*16.7*		ng/L	19.80		84.4	10-130			
Surrogate: D3-NMeFOSAA	*37.7*		ng/L	39.59		95.3	40-170			
Surrogate: D5-NEtFOSAA	*35.9*		ng/L	39.59		90.6	25-135			
Surrogate: D7-NMeFOSE	*185*		ng/L	198.0		93.2	10-130			
Surrogate: D9-NEtFOSE	*178*		ng/L	198.0		90.1	10-130			
Surrogate: 13C3-HFPO-DA	*98.3*		ng/L	79.18		124	40-130			
LCS (B394095-BS1)				Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorobutanoic acid (PFBA)	78.2	6.3	ng/L	79.05		98.9	70-140			
Perfluoropentanoic acid (PFPeA)	38.7	3.2	ng/L	39.53		98.0	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
LCS (B394095-BS1)				Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorohexanoic acid (PFHxA)	20.1	1.6	ng/L	19.76		102	70-145			
Perfluoroheptanoic acid (PFHpA)	19.8	1.6	ng/L	19.76		100	70-150			
Perfluorooctanoic acid (PFOA)	20.3	1.6	ng/L	19.76		103	70-150			
Perfluorononanoic acid (PFNA)	19.0	1.6	ng/L	19.76		96.1	70-150			
Perfluorodecanoic acid (PFDA)	21.4	1.6	ng/L	19.76		109	70-140			
Perfluoroundecanoic acid (PFUnA)	21.1	1.6	ng/L	19.76		107	70-145			
Perfluorododecanoic acid (PFDoA)	20.9	1.6	ng/L	19.76		106	70-140			
Perfluorotridecanoic acid (PFTrDA)	20.5	1.6	ng/L	19.76		104	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.3	1.6	ng/L	19.76		103	60-140			
Perfluorobutanesulfonic acid (PFBS)	19.7	1.6	ng/L	17.55		112	60-145			
Perfluoropentanesulfonic acid (PFPeS)	19.9	1.6	ng/L	18.58		107	65-140			
Perfluorohexanesulfonic acid (PFHxS)	19.2	1.6	ng/L	18.02		107	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	22.9	1.6	ng/L	18.81		122	70-150			
Perfluorooctanesulfonic acid (PFOS)	19.5	1.6	ng/L	18.34		106	55-150			
Perfluorononanesulfonic acid (PFNS)	21.9	1.6	ng/L	18.97		115	65-145			
Perfluorodecanesulfonic acid (PFDS)	21.7	1.6	ng/L	19.05		114	60-145			
Perfluorododecanesulfonic acid (PFDoS)	19.8	1.6	ng/L	19.13		103	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	77.7	6.3	ng/L	74.07		105	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76.9	6.3	ng/L	75.18		102	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	80.8	6.3	ng/L	75.89		106	60-150			
Perfluorooctanesulfonamide (PFOSA)	20.3	1.6	ng/L	19.76		103	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	19.8	1.6	ng/L	19.76		100	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	19.5	1.6	ng/L	19.76		98.5	65-145			
N-MeFOSAA (NMeFOSAA)	20.4	1.6	ng/L	19.76		103	50-140			
N-EtFOSAA (NEtFOSAA)	20.0	1.6	ng/L	19.76		101	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	209	16	ng/L	197.6		106	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	215	16	ng/L	197.6		109	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	84.2	6.3	ng/L	79.05		107	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	74.6	6.3	ng/L	74.70		99.9	65-145			
9Cl-PF3ONS (F53B Minor)	83.1	6.3	ng/L	73.75		113	70-155			
11Cl-PF3OUdS (F53B Major)	81.4	6.3	ng/L	73.83		110	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	97.1	7.9	ng/L	98.81		98.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	474	40	ng/L	494.1		96.0	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	488	40	ng/L	494.1		98.8	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	35.2	3.2	ng/L	35.26		99.8	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.8	3.2	ng/L	39.53		103	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	41.4	3.2	ng/L	39.53		105	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	46.5	3.2	ng/L	39.53		118	50-150			V-06
Surrogate: 13C4-PFBA	*76.4*		ng/L	79.05		96.6	5-130			
Surrogate: 13C5-PFPeA	*38.9*		ng/L	39.53		98.5	40-130			
Surrogate: 13C5-PFHxA	*19.4*		ng/L	19.76		98.3	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
LCS (B394095-BS1)				Prepared: 12/12/24 Analyzed: 12/16/24						
Surrogate: 13C4-PFHpA	*19.6*		ng/L	19.76		99.0	40-130			
Surrogate: 13C8-PFOA	*18.0*		ng/L	19.76		90.8	40-130			
Surrogate: 13C9-PFNA	*9.76*		ng/L	9.881		98.7	40-130			
Surrogate: 13C6-PFDA	*9.64*		ng/L	9.881		97.6	40-130			
Surrogate: 13C7-PFUnA	*9.16*		ng/L	9.881		92.7	30-130			
Surrogate: 13C2-PFDoA	*8.69*		ng/L	9.881		88.0	10-130			
Surrogate: 13C2-PFTeDA	*8.34*		ng/L	9.881		84.4	10-130			
Surrogate: 13C3-PFBS	*18.4*		ng/L	19.76		93.1	40-135			
Surrogate: 13C3-PFHxS	*18.5*		ng/L	19.76		93.4	40-130			
Surrogate: 13C8-PFOS	*17.1*		ng/L	19.76		86.6	40-130			
Surrogate: 13C2-4:2FTS	*37.8*		ng/L	39.53		95.7	40-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	39.53		94.4	40-200			
Surrogate: 13C2-8:2FTS	*33.2*		ng/L	39.53		84.0	40-300			
Surrogate: 13C8-PFOSA	*17.5*		ng/L	19.76		88.5	40-130			
Surrogate: D3-NMeFOSA	*14.8*		ng/L	19.76		74.7	10-130			
Surrogate: D5-NEtFOSA	*14.7*		ng/L	19.76		74.1	10-130			
Surrogate: D3-NMeFOSAA	*35.6*		ng/L	39.53		90.0	40-170			
Surrogate: D5-NEtFOSAA	*33.6*		ng/L	39.53		84.9	25-135			
Surrogate: D7-NMeFOSE	*164*		ng/L	197.6		83.0	10-130			
Surrogate: D9-NEtFOSE	*155*		ng/L	197.6		78.3	10-130			
Surrogate: 13C3-HFPO-DA	*86.2*		ng/L	79.05		109	40-130			
MRL Check (B394095-MRL1)				Prepared: 12/12/24 Analyzed: 12/18/24						
Perfluorobutanoic acid (PFBA)	11.5	6.3	ng/L	12.64		91.0	70-140			
Perfluoropentanoic acid (PFPeA)	5.82	3.2	ng/L	6.322		92.0	65-135			
Perfluorohexanoic acid (PFHxA)	2.91	1.6	ng/L	3.161		92.1	70-145			
Perfluoroheptanoic acid (PFHpA)	2.67	1.6	ng/L	3.161		84.6	70-150			
Perfluorooctanoic acid (PFOA)	2.65	1.6	ng/L	3.161		83.8	70-150			
Perfluorononanoic acid (PFNA)	2.75	1.6	ng/L	3.161		86.9	70-150			
Perfluorodecanoic acid (PFDA)	2.80	1.6	ng/L	3.161		88.7	70-140			
Perfluoroundecanoic acid (PFUnA)	3.05	1.6	ng/L	3.161		96.4	70-145			
Perfluorododecanoic acid (PFDoA)	2.90	1.6	ng/L	3.161		91.6	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.54	1.6	ng/L	3.161		80.2	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.99	1.6	ng/L	3.161		94.5	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.44	1.6	ng/L	2.807		87.1	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.57	1.6	ng/L	2.971		86.5	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.72	1.6	ng/L	2.883		94.3	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.82	1.6	ng/L	3.009		93.7	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.51	1.6	ng/L	2.933		85.6	55-150			
Perfluorononanesulfonic acid (PFNS)	2.65	1.6	ng/L	3.034		87.4	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.71	1.6	ng/L	3.047		88.9	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.40	1.6	ng/L	3.060		78.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.5	6.3	ng/L	11.85		97.3	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	12.0	6.3	ng/L	12.02		99.8	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.9	6.3	ng/L	12.14		98.2	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.78	1.6	ng/L	3.161		88.1	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.93	1.6	ng/L	3.161		92.7	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	3.00	1.6	ng/L	3.161		94.9	65-145			
N-MeFOSAA (NMeFOSAA)	2.55	1.6	ng/L	3.161		80.8	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
MRL Check (B394095-MRL1)				Prepared: 12/12/24 Analyzed: 12/18/24						
N-EtFOSAA (NEtFOSAA)	2.86	1.6	ng/L	3.161		90.5	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	29.4	16	ng/L	31.61		93.1	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	30.1	16	ng/L	31.61		95.1	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.5	6.3	ng/L	12.64		91.2	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.6	6.3	ng/L	11.95		88.9	65-145			
9Cl-PF3ONS (F53B Minor)	11.1	6.3	ng/L	11.80		94.0	70-155			
11Cl-PF3OUdS (F53B Major)	11.1	6.3	ng/L	11.92		92.8	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	13.3	7.9	ng/L	15.80		84.4	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	67.8	40	ng/L	79.02		85.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	65.7	40	ng/L	79.02		83.1	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.06	3.2	ng/L	5.639		89.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.57	3.2	ng/L	6.322		88.1	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.00	3.2	ng/L	6.322		94.9	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.86	3.2	ng/L	6.322		92.7	50-150			V-06
Surrogate: 13C4-PFBA	*73.0*		ng/L	79.02		92.3	5-130			
Surrogate: 13C5-PFPeA	*35.9*		ng/L	39.51		90.7	40-130			
Surrogate: 13C5-PFHxA	*18.6*		ng/L	19.76		94.2	40-130			
Surrogate: 13C4-PFHpA	*19.0*		ng/L	19.76		96.1	40-130			
Surrogate: 13C8-PFOA	*18.8*		ng/L	19.76		95.1	40-130			
Surrogate: 13C9-PFNA	*9.46*		ng/L	9.878		95.8	40-130			
Surrogate: 13C6-PFDA	*8.84*		ng/L	9.878		89.5	40-130			
Surrogate: 13C7-PFUnA	*8.78*		ng/L	9.878		88.9	30-130			
Surrogate: 13C2-PFDoA	*8.33*		ng/L	9.878		84.4	10-130			
Surrogate: 13C2-PFTeDA	*7.32*		ng/L	9.878		74.1	10-130			
Surrogate: 13C3-PFBS	*18.9*		ng/L	19.76		95.6	40-135			
Surrogate: 13C3-PFHxS	*18.3*		ng/L	19.76		92.4	40-130			
Surrogate: 13C8-PFOS	*18.7*		ng/L	19.76		94.5	40-130			
Surrogate: 13C2-4:2FTS	*36.1*		ng/L	39.51		91.5	40-200			
Surrogate: 13C2-6:2FTS	*35.4*		ng/L	39.51		89.6	40-200			
Surrogate: 13C2-8:2FTS	*33.9*		ng/L	39.51		85.8	40-300			
Surrogate: 13C8-PFOSA	*16.6*		ng/L	19.76		83.8	40-130			
Surrogate: D3-NMeFOSA	*14.0*		ng/L	19.76		70.8	10-130			
Surrogate: D5-NEtFOSA	*13.7*		ng/L	19.76		69.2	10-130			
Surrogate: D3-NMeFOSAA	*35.7*		ng/L	39.51		90.5	40-170			
Surrogate: D5-NEtFOSAA	*32.2*		ng/L	39.51		81.6	25-135			
Surrogate: D7-NMeFOSE	*156*		ng/L	197.6		78.7	10-130			
Surrogate: D9-NEtFOSE	*149*		ng/L	197.6		75.3	10-130			
Surrogate: 13C3-HFPO-DA	*77.2*		ng/L	79.02		97.6	40-130			
Matrix Spike (B394095-MS2)		**Source: 24L0334-10**		Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorobutanoic acid (PFBA)	82.0	6.7	ng/L	83.34	ND	98.4	70-140			
Perfluoropentanoic acid (PFPeA)	42.2	3.3	ng/L	41.67	ND	101	65-135			
Perfluorohexanoic acid (PFHxA)	21.7	1.7	ng/L	20.84	ND	104	70-145			
Perfluoroheptanoic acid (PFHpA)	21.0	1.7	ng/L	20.84	ND	101	70-150			
Perfluorooctanoic acid (PFOA)	21.4	1.7	ng/L	20.84	ND	103	70-150			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
Matrix Spike (B394095-MS2)	**Source: 24L0334-10**			Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorononanoic acid (PFNA)	21.2	1.7	ng/L	20.84	ND	102	70-150			
Perfluorodecanoic acid (PFDA)	23.2	1.7	ng/L	20.84	ND	111	70-140			
Perfluoroundecanoic acid (PFUnA)	21.8	1.7	ng/L	20.84	ND	105	70-145			
Perfluorododecanoic acid (PFDoA)	22.3	1.7	ng/L	20.84	ND	107	70-140			
Perfluorotridecanoic acid (PFTrDA)	22.1	1.7	ng/L	20.84	ND	106	65-140			
Perfluorotetradecanoic acid (PFTeDA)	23.5	1.7	ng/L	20.84	ND	113	60-140			
Perfluorobutanesulfonic acid (PFBS)	20.2	1.7	ng/L	18.50	ND	109	60-145			
Perfluoropentanesulfonic acid (PFPeS)	21.1	1.7	ng/L	19.59	ND	108	65-140			
Perfluorohexanesulfonic acid (PFHxS)	20.0	1.7	ng/L	19.00	ND	105	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	20.7	1.7	ng/L	19.84	ND	104	70-150			
Perfluorooctanesulfonic acid (PFOS)	19.7	1.7	ng/L	19.34	ND	102	55-150			
Perfluorononanesulfonic acid (PFNS)	20.6	1.7	ng/L	20.00	ND	103	65-145			
Perfluorodecanesulfonic acid (PFDS)	19.9	1.7	ng/L	20.09	ND	99.2	60-145			
Perfluorododecanesulfonic acid (PFDoS)	18.6	1.7	ng/L	20.17	ND	92.3	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	78.9	6.7	ng/L	78.09	ND	101	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	84.2	6.7	ng/L	79.26	ND	106	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	90.1	6.7	ng/L	80.01	ND	113	60-150			
Perfluorooctanesulfonamide (PFOSA)	22.2	1.7	ng/L	20.84	ND	107	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.3	1.7	ng/L	20.84	ND	102	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	19.8	1.7	ng/L	20.84	ND	94.9	65-145			
N-MeFOSAA (NMeFOSAA)	21.3	1.7	ng/L	20.84	ND	102	50-140			
N-EtFOSAA (NEtFOSAA)	20.5	1.7	ng/L	20.84	ND	98.5	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	222	17	ng/L	208.4	ND	107	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	230	17	ng/L	208.4	ND	111	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	85.8	6.7	ng/L	83.34	ND	103	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	75.7	6.7	ng/L	78.76	ND	96.2	65-145			
9Cl-PF3ONS (F53B Minor)	81.5	6.7	ng/L	77.76	ND	105	70-155			
11Cl-PF3OUdS (F53B Major)	78.0	6.7	ng/L	77.84	ND	100	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	98.8	8.3	ng/L	104.2	ND	94.8	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	528	42	ng/L	520.9	ND	101	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	550	42	ng/L	520.9	ND	106	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	39.9	3.3	ng/L	37.17	ND	107	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	44.6	3.3	ng/L	41.67	ND	107	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	44.3	3.3	ng/L	41.67	ND	106	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.1	3.3	ng/L	41.67	ND	118	50-150			V-06
Surrogate: 13C4-PFBA	*73.6*		ng/L	83.34		88.3	5-130			
Surrogate: 13C5-PFPeA	*37.1*		ng/L	41.67		89.0	40-130			
Surrogate: 13C5-PFHxA	*18.2*		ng/L	20.84		87.6	40-130			
Surrogate: 13C4-PFHpA	*19.3*		ng/L	20.84		92.7	40-130			
Surrogate: 13C8-PFOA	*17.2*		ng/L	20.84		82.7	40-130			
Surrogate: 13C9-PFNA	*8.95*		ng/L	10.42		85.9	40-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
Matrix Spike (B394095-MS2)	**Source: 24L0334-10**			Prepared: 12/12/24 Analyzed: 12/16/24						
Surrogate: 13C6-PFDA	*8.28*		ng/L	10.42		79.5	40-130			
Surrogate: 13C7-PFUnA	*8.28*		ng/L	10.42		79.4	30-130			
Surrogate: 13C2-PFDoA	*7.83*		ng/L	10.42		75.1	10-130			
Surrogate: 13C2-PFTeDA	*7.66*		ng/L	10.42		73.5	10-130			
Surrogate: 13C3-PFBS	*18.8*		ng/L	20.84		90.0	40-135			
Surrogate: 13C3-PFHxS	*18.4*		ng/L	20.84		88.4	40-130			
Surrogate: 13C8-PFOS	*17.7*		ng/L	20.84		85.1	40-130			
Surrogate: 13C2-4:2FTS	*42.6*		ng/L	41.67		102	40-200			
Surrogate: 13C2-6:2FTS	*38.7*		ng/L	41.67		92.9	40-200			
Surrogate: 13C2-8:2FTS	*32.0*		ng/L	41.67		76.7	40-300			
Surrogate: 13C8-PFOSA	*16.9*		ng/L	20.84		81.1	40-130			
Surrogate: D3-NMeFOSA	*15.5*		ng/L	20.84		74.4	10-130			
Surrogate: D5-NEtFOSA	*14.7*		ng/L	20.84		70.6	10-130			
Surrogate: D3-NMeFOSAA	*31.5*		ng/L	41.67		75.6	40-170			
Surrogate: D5-NEtFOSAA	*32.2*		ng/L	41.67		77.2	25-135			
Surrogate: D7-NMeFOSE	*159*		ng/L	208.4		76.4	10-130			
Surrogate: D9-NEtFOSE	*150*		ng/L	208.4		72.0	10-130			
Surrogate: 13C3-HFPO-DA	*82.8*		ng/L	83.34		99.3	40-130			
Matrix Spike Dup (B394095-MSD2)	**Source: 24L0334-10**			Prepared: 12/12/24 Analyzed: 12/16/24						
Perfluorobutanoic acid (PFBA)	86.4	6.7	ng/L	84.07	ND	103	70-140	5.18	25	
Perfluoropentanoic acid (PFPeA)	42.9	3.4	ng/L	42.04	ND	102	65-135	1.75	25	
Perfluorohexanoic acid (PFHxA)	22.1	1.7	ng/L	21.02	ND	105	70-145	2.24	25	
Perfluoroheptanoic acid (PFHpA)	22.0	1.7	ng/L	21.02	ND	104	70-150	4.24	25	
Perfluorooctanoic acid (PFOA)	22.8	1.7	ng/L	21.02	ND	108	70-150	6.15	25	
Perfluorononanoic acid (PFNA)	21.6	1.7	ng/L	21.02	ND	103	70-150	1.75	25	
Perfluorodecanoic acid (PFDA)	23.5	1.7	ng/L	21.02	ND	112	70-140	1.43	25	
Perfluoroundecanoic acid (PFUnA)	24.0	1.7	ng/L	21.02	ND	114	70-145	9.55	25	
Perfluorododecanoic acid (PFDoA)	23.7	1.7	ng/L	21.02	ND	113	70-140	6.11	25	
Perfluorotridecanoic acid (PFTrDA)	23.5	1.7	ng/L	21.02	ND	112	65-140	6.13	25	
Perfluorotetradecanoic acid (PFTeDA)	23.7	1.7	ng/L	21.02	ND	113	60-140	0.830	25	
Perfluorobutanesulfonic acid (PFBS)	21.3	1.7	ng/L	18.66	ND	114	60-145	5.11	25	
Perfluoropentanesulfonic acid (PFPeS)	21.4	1.7	ng/L	19.76	ND	108	65-140	1.36	25	
Perfluorohexanesulfonic acid (PFHxS)	20.7	1.7	ng/L	19.17	ND	108	65-145	3.17	25	
Perfluoroheptanesulfonic acid (PFHpS)	23.1	1.7	ng/L	20.01	ND	115	70-150	10.9	25	
Perfluorooctanesulfonic acid (PFOS)	20.9	1.7	ng/L	19.51	ND	107	55-150	5.76	25	
Perfluorononanesulfonic acid (PFNS)	23.2	1.7	ng/L	20.18	ND	115	65-145	12.0	25	
Perfluorodecanesulfonic acid (PFDS)	20.9	1.7	ng/L	20.26	ND	103	60-145	4.62	25	
Perfluorododecanesulfonic acid (PFDoS)	19.9	1.7	ng/L	20.35	ND	97.7	50-145	6.55	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	83.0	6.7	ng/L	78.78	ND	105	70-145	5.04	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	81.0	6.7	ng/L	79.95	ND	101	65-155	3.84	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	87.2	6.7	ng/L	80.71	ND	108	60-150	3.33	25	
Perfluorooctanesulfonamide (PFOSA)	22.8	1.7	ng/L	21.02	ND	108	70-145	2.49	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.2	1.7	ng/L	21.02	ND	101	60-150	0.692	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.6	1.7	ng/L	21.02	ND	103	65-145	8.93	25	
N-MeFOSAA (NMeFOSAA)	22.1	1.7	ng/L	21.02	ND	105	50-140	4.10	25	
N-EtFOSAA (NEtFOSAA)	22.3	1.7	ng/L	21.02	ND	106	70-145	8.16	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	226	17	ng/L	210.2	ND	108	70-145	1.76	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394095 - EPA 1633										
Matrix Spike Dup (B394095-MSD2)	**Source: 24L0334-10**			Prepared: 12/12/24 Analyzed: 12/16/24						
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	231	17	ng/L	210.2	ND	110	70-135	0.492	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	90.6	6.7	ng/L	84.07	ND	108	70-140	5.49	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	76.1	6.7	ng/L	79.45	ND	95.8	65-145	0.502	25	
9Cl-PF3ONS (F53B Minor)	84.5	6.7	ng/L	78.44	ND	108	70-155	3.60	25	
11Cl-PF3OUdS (F53B Major)	81.1	6.7	ng/L	78.53	ND	103	55-160	3.85	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	105	8.4	ng/L	105.1	ND	99.7	65-130	5.84	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	532	42	ng/L	525.5	ND	101	70-135	0.738	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	553	42	ng/L	525.5	ND	105	50-145	0.418	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	39.7	3.4	ng/L	37.50	ND	106	70-140	0.481	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	46.7	3.4	ng/L	42.04	ND	111	55-140	4.46	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	46.6	3.4	ng/L	42.04	ND	111	60-150	5.10	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.5	3.4	ng/L	42.04	ND	118	50-150	0.855	25	V-06
Surrogate: 13C4-PFBA	*71.7*		ng/L	84.07		85.3	5-130			
Surrogate: 13C5-PFPeA	*35.5*		ng/L	42.04		84.5	40-130			
Surrogate: 13C5-PFHxA	*18.4*		ng/L	21.02		87.4	40-130			
Surrogate: 13C4-PFHpA	*19.0*		ng/L	21.02		90.4	40-130			
Surrogate: 13C8-PFOA	*17.8*		ng/L	21.02		84.6	40-130			
Surrogate: 13C9-PFNA	*9.05*		ng/L	10.51		86.1	40-130			
Surrogate: 13C6-PFDA	*8.54*		ng/L	10.51		81.3	40-130			
Surrogate: 13C7-PFUnA	*8.10*		ng/L	10.51		77.1	30-130			
Surrogate: 13C2-PFDoA	*7.59*		ng/L	10.51		72.2	10-130			
Surrogate: 13C2-PFTeDA	*7.50*		ng/L	10.51		71.4	10-130			
Surrogate: 13C3-PFBS	*18.4*		ng/L	21.02		87.5	40-135			
Surrogate: 13C3-PFHxS	*18.2*		ng/L	21.02		86.7	40-130			
Surrogate: 13C8-PFOS	*17.9*		ng/L	21.02		85.0	40-130			
Surrogate: 13C2-4:2FTS	*43.0*		ng/L	42.04		102	40-200			
Surrogate: 13C2-6:2FTS	*40.2*		ng/L	42.04		95.6	40-200			
Surrogate: 13C2-8:2FTS	*34.0*		ng/L	42.04		80.9	40-300			
Surrogate: 13C8-PFOSA	*18.2*		ng/L	21.02		86.6	40-130			
Surrogate: D3-NMeFOSA	*16.6*		ng/L	21.02		78.8	10-130			
Surrogate: D5-NEtFOSA	*16.4*		ng/L	21.02		78.2	10-130			
Surrogate: D3-NMeFOSAA	*34.4*		ng/L	42.04		81.8	40-170			
Surrogate: D5-NEtFOSAA	*33.2*		ng/L	42.04		78.9	25-135			
Surrogate: D7-NMeFOSE	*167*		ng/L	210.2		79.6	10-130			
Surrogate: D9-NEtFOSE	*165*		ng/L	210.2		78.4	10-130			
Surrogate: 13C3-HFPO-DA	*79.3*		ng/L	84.07		94.4	40-130			
Batch B395061 - EPA 1633										
Blank (B395061-BLK1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
Blank (B395061-BLK1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*60.7*		ng/L	78.78		77.1	5-130			
Surrogate: 13C5-PFPeA	*31.2*		ng/L	39.39		79.3	40-130			
Surrogate: 13C5-PFHxA	*15.4*		ng/L	19.70		78.0	40-130			
Surrogate: 13C4-PFHpA	*15.7*		ng/L	19.70		79.9	40-130			
Surrogate: 13C8-PFOA	*15.8*		ng/L	19.70		80.0	40-130			
Surrogate: 13C9-PFNA	*7.46*		ng/L	9.848		75.8	40-130			
Surrogate: 13C6-PFDA	*7.30*		ng/L	9.848		74.1	40-130			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
Blank (B395061-BLK1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Surrogate: 13C7-PFUnA	*7.09*		ng/L	9.848		72.0	30-130			
Surrogate: 13C2-PFDoA	*7.09*		ng/L	9.848		72.0	10-130			
Surrogate: 13C2-PFTeDA	*6.69*		ng/L	9.848		68.0	10-130			
Surrogate: 13C3-PFBS	*13.5*		ng/L	19.70		68.3	40-135			
Surrogate: 13C3-PFHxS	*13.5*		ng/L	19.70		68.8	40-130			
Surrogate: 13C8-PFOS	*15.0*		ng/L	19.70		76.2	40-130			
Surrogate: 13C2-4:2FTS	*30.3*		ng/L	39.39		76.9	40-200			
Surrogate: 13C2-6:2FTS	*28.8*		ng/L	39.39		73.2	40-200			
Surrogate: 13C2-8:2FTS	*24.6*		ng/L	39.39		62.4	40-300			
Surrogate: 13C8-PFOSA	*17.3*		ng/L	19.70		87.7	40-130			
Surrogate: D3-NMeFOSA	*15.2*		ng/L	19.70		77.2	10-130			
Surrogate: D5-NEtFOSA	*14.8*		ng/L	19.70		75.0	10-130			
Surrogate: D3-NMeFOSAA	*27.5*		ng/L	39.39		69.7	40-170			
Surrogate: D5-NEtFOSAA	*25.9*		ng/L	39.39		65.7	25-135			
Surrogate: D7-NMeFOSE	*167*		ng/L	197.0		84.6	10-130			
Surrogate: D9-NEtFOSE	*163*		ng/L	197.0		82.6	10-130			
Surrogate: 13C3-HFPO-DA	*65.2*		ng/L	78.78		82.8	40-130			
LCS (B395061-BS1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	72.3	6.3	ng/L	78.67		91.9	70-140			
Perfluoropentanoic acid (PFPeA)	36.6	3.1	ng/L	39.34		93.0	65-135			
Perfluorohexanoic acid (PFHxA)	19.1	1.6	ng/L	19.67		97.1	70-145			
Perfluoroheptanoic acid (PFHpA)	19.6	1.6	ng/L	19.67		99.4	70-150			
Perfluorooctanoic acid (PFOA)	18.9	1.6	ng/L	19.67		96.2	70-150			
Perfluorononanoic acid (PFNA)	17.4	1.6	ng/L	19.67		88.7	70-150			
Perfluorodecanoic acid (PFDA)	19.6	1.6	ng/L	19.67		99.9	70-140			
Perfluoroundecanoic acid (PFUnA)	19.3	1.6	ng/L	19.67		98.1	70-145			
Perfluorododecanoic acid (PFDoA)	20.0	1.6	ng/L	19.67		102	70-140			
Perfluorotridecanoic acid (PFTrDA)	18.6	1.6	ng/L	19.67		94.7	65-140			
Perfluorotetradecanoic acid (PFTeDA)	19.8	1.6	ng/L	19.67		101	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.0	1.6	ng/L	17.46		97.4	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.9	1.6	ng/L	18.49		97.1	65-140			
Perfluorohexanesulfonic acid (PFHxS)	17.2	1.6	ng/L	17.94		95.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	18.9	1.6	ng/L	18.72		101	70-150			
Perfluorooctanesulfonic acid (PFOS)	17.3	1.6	ng/L	18.25		95.0	55-150			
Perfluorononanesulfonic acid (PFNS)	18.3	1.6	ng/L	18.88		96.8	65-145			
Perfluorodecanesulfonic acid (PFDS)	18.3	1.6	ng/L	18.96		96.6	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.6	1.6	ng/L	19.04		87.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	70.4	6.3	ng/L	73.71		95.5	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	74.0	6.3	ng/L	74.82		99.0	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	76.7	6.3	ng/L	75.52		102	60-150			
Perfluorooctanesulfonamide (PFOSA)	19.9	1.6	ng/L	19.67		101	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	19.0	1.6	ng/L	19.67		96.8	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.5	1.6	ng/L	19.67		93.8	65-145			
N-MeFOSAA (NMeFOSAA)	18.0	1.6	ng/L	19.67		91.7	50-140			
N-EtFOSAA (NEtFOSAA)	18.5	1.6	ng/L	19.67		93.8	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	197	16	ng/L	196.7		99.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	198	16	ng/L	196.7		101	70-135			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
LCS (B395061-BS1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Hexafluoropropylene oxide dimer acid (HFPO-DA)	75.7	6.3	ng/L	78.67		96.3	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	72.0	6.3	ng/L	74.34		96.9	65-145			
9Cl-PF3ONS (F53B Minor)	72.9	6.3	ng/L	73.40		99.4	70-155			
11Cl-PF3OUdS (F53B Major)	68.9	6.3	ng/L	73.48		93.8	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	88.0	7.9	ng/L	98.34		89.5	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	467	39	ng/L	491.7		94.9	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	457	39	ng/L	491.7		92.8	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	33.5	3.1	ng/L	35.09		95.5	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.8	3.1	ng/L	39.34		91.1	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	38.4	3.1	ng/L	39.34		97.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	37.4	3.1	ng/L	39.34		95.1	50-150			
Surrogate: 13C4-PFBA	*76.1*		ng/L	78.67		96.8	5-130			
Surrogate: 13C5-PFPeA	*39.7*		ng/L	39.34		101	40-130			
Surrogate: 13C5-PFHxA	*19.8*		ng/L	19.67		100	40-130			
Surrogate: 13C4-PFHpA	*20.0*		ng/L	19.67		102	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.67		95.3	40-130			
Surrogate: 13C9-PFNA	*9.59*		ng/L	9.834		97.6	40-130			
Surrogate: 13C6-PFDA	*9.21*		ng/L	9.834		93.6	40-130			
Surrogate: 13C7-PFUnA	*9.00*		ng/L	9.834		91.6	30-130			
Surrogate: 13C2-PFDoA	*8.30*		ng/L	9.834		84.4	10-130			
Surrogate: 13C2-PFTeDA	*7.75*		ng/L	9.834		78.8	10-130			
Surrogate: 13C3-PFBS	*19.0*		ng/L	19.67		96.7	40-135			
Surrogate: 13C3-PFHxS	*18.4*		ng/L	19.67		93.8	40-130			
Surrogate: 13C8-PFOS	*19.3*		ng/L	19.67		98.4	40-130			
Surrogate: 13C2-4:2FTS	*38.0*		ng/L	39.34		96.7	40-200			
Surrogate: 13C2-6:2FTS	*40.6*		ng/L	39.34		103	40-200			
Surrogate: 13C2-8:2FTS	*33.8*		ng/L	39.34		86.0	40-300			
Surrogate: 13C8-PFOSA	*18.9*		ng/L	19.67		96.0	40-130			
Surrogate: D3-NMeFOSA	*17.4*		ng/L	19.67		88.3	10-130			
Surrogate: D5-NEtFOSA	*18.0*		ng/L	19.67		91.5	10-130			
Surrogate: D3-NMeFOSAA	*38.0*		ng/L	39.34		96.6	40-170			
Surrogate: D5-NEtFOSAA	*37.0*		ng/L	39.34		94.1	25-135			
Surrogate: D7-NMeFOSE	*186*		ng/L	196.7		94.7	10-130			
Surrogate: D9-NEtFOSE	*183*		ng/L	196.7		93.1	10-130			
Surrogate: 13C3-HFPO-DA	*82.6*		ng/L	78.67		105	40-130			
MRL Check (B395061-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	11.7	6.3	ng/L	12.61		93.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.50	3.2	ng/L	6.303		87.3	65-135			
Perfluorohexanoic acid (PFHxA)	3.19	1.6	ng/L	3.151		101	70-145			
Perfluoroheptanoic acid (PFHpA)	2.92	1.6	ng/L	3.151		92.8	70-150			
Perfluorooctanoic acid (PFOA)	2.89	1.6	ng/L	3.151		91.6	70-150			
Perfluorononanoic acid (PFNA)	2.90	1.6	ng/L	3.151		92.1	70-150			
Perfluorodecanoic acid (PFDA)	3.04	1.6	ng/L	3.151		96.6	70-140			
Perfluoroundecanoic acid (PFUnA)	3.21	1.6	ng/L	3.151		102	70-145			
Perfluorododecanoic acid (PFDoA)	3.04	1.6	ng/L	3.151		96.4	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.82	1.6	ng/L	3.151		89.4	65-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
MRL Check (B395061-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorotetradecanoic acid (PFTeDA)	2.99	1.6	ng/L	3.151		94.8	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.59	1.6	ng/L	2.798		92.7	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.93	1.6	ng/L	2.962		98.9	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.80	1.6	ng/L	2.874		97.3	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.79	1.6	ng/L	3.000		93.1	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.72	1.6	ng/L	2.924		92.9	55-150			
Perfluorononanesulfonic acid (PFNS)	2.94	1.6	ng/L	3.025		97.3	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.74	1.6	ng/L	3.038		90.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.78	1.6	ng/L	3.050		91.3	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.0	6.3	ng/L	11.81		93.1	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.0	6.3	ng/L	11.99		91.9	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.9	6.3	ng/L	12.10		97.9	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.92	1.6	ng/L	3.151		92.7	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.08	1.6	ng/L	3.151		97.7	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.91	1.6	ng/L	3.151		92.2	65-145			
N-MeFOSAA (NMeFOSAA)	3.32	1.6	ng/L	3.151		105	50-140			
N-EtFOSAA (NEtFOSAA)	3.28	1.6	ng/L	3.151		104	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	30.3	16	ng/L	31.51		96.0	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	30.4	16	ng/L	31.51		96.6	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.1	6.3	ng/L	12.61		96.1	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.3	6.3	ng/L	11.91		95.2	65-145			
9Cl-PF3ONS (F53B Minor)	11.8	6.3	ng/L	11.76		100	70-155			
11Cl-PF3OUdS (F53B Major)	11.3	6.3	ng/L	11.77		95.8	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	13.9	7.9	ng/L	15.76		88.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	74.4	39	ng/L	78.78		94.4	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	70.6	39	ng/L	78.78		89.6	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.25	3.2	ng/L	5.622		93.4	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.40	3.2	ng/L	6.303		85.7	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.17	3.2	ng/L	6.303		98.0	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.42	3.2	ng/L	6.303		86.0	50-150			
Surrogate: 13C4-PFBA	*76.4*		ng/L	78.78		96.9	5-130			
Surrogate: 13C5-PFPeA	*38.1*		ng/L	39.39		96.6	40-130			
Surrogate: 13C5-PFHxA	*18.5*		ng/L	19.70		94.2	40-130			
Surrogate: 13C4-PFHpA	*19.3*		ng/L	19.70		97.8	40-130			
Surrogate: 13C8-PFOA	*19.1*		ng/L	19.70		97.1	40-130			
Surrogate: 13C9-PFNA	*9.64*		ng/L	9.848		97.9	40-130			
Surrogate: 13C6-PFDA	*9.08*		ng/L	9.848		92.2	40-130			
Surrogate: 13C7-PFUnA	*9.16*		ng/L	9.848		93.0	30-130			
Surrogate: 13C2-PFDoA	*8.54*		ng/L	9.848		86.7	10-130			
Surrogate: 13C2-PFTeDA	*8.36*		ng/L	9.848		84.9	10-130			
Surrogate: 13C3-PFBS	*18.8*		ng/L	19.70		95.4	40-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
MRL Check (B395061-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Surrogate: 13C3-PFHxS	*18.0*		ng/L	19.70		91.3	40-130			
Surrogate: 13C8-PFOS	*19.2*		ng/L	19.70		97.3	40-130			
Surrogate: 13C2-4:2FTS	*37.5*		ng/L	39.39		95.1	40-200			
Surrogate: 13C2-6:2FTS	*40.3*		ng/L	39.39		102	40-200			
Surrogate: 13C2-8:2FTS	*30.3*		ng/L	39.39		77.0	40-300			
Surrogate: 13C8-PFOSA	*18.8*		ng/L	19.70		95.2	40-130			
Surrogate: D3-NMeFOSA	*18.3*		ng/L	19.70		92.8	10-130			
Surrogate: D5-NEtFOSA	*18.6*		ng/L	19.70		94.6	10-130			
Surrogate: D3-NMeFOSAA	*37.6*		ng/L	39.39		95.6	40-170			
Surrogate: D5-NEtFOSAA	*33.7*		ng/L	39.39		85.4	25-135			
Surrogate: D7-NMeFOSE	*193*		ng/L	197.0		98.2	10-130			
Surrogate: D9-NEtFOSE	*186*		ng/L	197.0		94.4	10-130			
Surrogate: 13C3-HFPO-DA	*77.7*		ng/L	78.78		98.6	40-130			
Matrix Spike (B395061-MS1)	**Source: 24L0334-15RE1**			Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	75.3	6.4	ng/L	80.53	1.44	91.7	70-140			
Perfluoropentanoic acid (PFPeA)	40.4	3.2	ng/L	40.27	2.63	93.8	65-135			
Perfluorohexanoic acid (PFHxA)	21.4	1.6	ng/L	20.13	1.65	98.1	70-145			
Perfluoroheptanoic acid (PFHpA)	20.1	1.6	ng/L	20.13	0.721	96.4	70-150			
Perfluorooctanoic acid (PFOA)	21.8	1.6	ng/L	20.13	2.69	94.9	70-150			
Perfluorononanoic acid (PFNA)	18.9	1.6	ng/L	20.13	ND	93.9	70-150			
Perfluorodecanoic acid (PFDA)	18.9	1.6	ng/L	20.13	ND	94.0	70-140			
Perfluoroundecanoic acid (PFUnA)	20.7	1.6	ng/L	20.13	ND	103	70-145			
Perfluorododecanoic acid (PFDoA)	20.5	1.6	ng/L	20.13	ND	102	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.0	1.6	ng/L	20.13	ND	94.5	65-140			
Perfluorotetradecanoic acid (PFTeDA)	19.2	1.6	ng/L	20.13	ND	95.5	60-140			
Perfluorobutanesulfonic acid (PFBS)	20.3	1.6	ng/L	17.88	1.49	105	60-145			
Perfluoropentanesulfonic acid (PFPeS)	18.5	1.6	ng/L	18.92	ND	98.0	65-140			
Perfluorohexanesulfonic acid (PFHxS)	19.3	1.6	ng/L	18.36	1.53	96.9	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	19.7	1.6	ng/L	19.17	ND	103	70-150			
Perfluorooctanesulfonic acid (PFOS)	18.7	1.6	ng/L	18.68	0.751	96.2	55-150			
Perfluorononanesulfonic acid (PFNS)	18.3	1.6	ng/L	19.33	ND	94.9	65-145			
Perfluorodecanesulfonic acid (PFDS)	17.7	1.6	ng/L	19.41	ND	91.1	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.3	1.6	ng/L	19.49	ND	83.7	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	74.9	6.4	ng/L	75.46	ND	99.3	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76.9	6.4	ng/L	76.59	ND	100	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	79.8	6.4	ng/L	77.31	ND	103	60-150			
Perfluorooctanesulfonamide (PFOSA)	19.8	1.6	ng/L	20.13	ND	98.4	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.1	1.6	ng/L	20.13	ND	99.8	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.8	1.6	ng/L	20.13	ND	93.5	65-145			
N-MeFOSAA (NMeFOSAA)	18.3	1.6	ng/L	20.13	ND	90.8	50-140			
N-EtFOSAA (NEtFOSAA)	18.9	1.6	ng/L	20.13	ND	93.8	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	195	16	ng/L	201.3	ND	96.7	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	200	16	ng/L	201.3	ND	99.3	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	81.9	6.4	ng/L	80.53	ND	102	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	71.1	6.4	ng/L	76.10	ND	93.4	65-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
Matrix Spike (B395061-MS1)	**Source: 24L0334-15RE1**			Prepared: 12/19/24 Analyzed: 12/23/24						
9Cl-PF3ONS (F53B Minor)	71.3	6.4	ng/L	75.14	ND	94.8	70-155			
11Cl-PF3OUdS (F53B Major)	68.8	6.4	ng/L	75.22	ND	91.5	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	89.0	8.1	ng/L	100.7	ND	88.4	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	459	40	ng/L	503.3	ND	91.1	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	469	40	ng/L	503.3	ND	93.1	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	34.2	3.2	ng/L	35.92	ND	95.1	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	41.0	3.2	ng/L	40.27	ND	102	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	39.8	3.2	ng/L	40.27	ND	98.8	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	39.0	3.2	ng/L	40.27	ND	96.9	50-150			
Surrogate: 13C4-PFBA	*71.0*		ng/L	80.53		88.1	5-130			
Surrogate: 13C5-PFPeA	*36.7*		ng/L	40.27		91.1	40-130			
Surrogate: 13C5-PFHxA	*18.3*		ng/L	20.13		90.9	40-130			
Surrogate: 13C4-PFHpA	*19.0*		ng/L	20.13		94.3	40-130			
Surrogate: 13C8-PFOA	*19.1*		ng/L	20.13		94.7	40-130			
Surrogate: 13C9-PFNA	*9.12*		ng/L	10.07		90.6	40-130			
Surrogate: 13C6-PFDA	*8.88*		ng/L	10.07		88.2	40-130			
Surrogate: 13C7-PFUnA	*7.79*		ng/L	10.07		77.4	30-130			
Surrogate: 13C2-PFDoA	*7.53*		ng/L	10.07		74.8	10-130			
Surrogate: 13C2-PFTeDA	*7.11*		ng/L	10.07		70.6	10-130			
Surrogate: 13C3-PFBS	*18.1*		ng/L	20.13		90.1	40-135			
Surrogate: 13C3-PFHxS	*18.0*		ng/L	20.13		89.3	40-130			
Surrogate: 13C8-PFOS	*17.1*		ng/L	20.13		84.9	40-130			
Surrogate: 13C2-4:2FTS	*42.7*		ng/L	40.27		106	40-200			
Surrogate: 13C2-6:2FTS	*41.8*		ng/L	40.27		104	40-200			
Surrogate: 13C2-8:2FTS	*32.9*		ng/L	40.27		81.6	40-300			
Surrogate: 13C8-PFOSA	*18.9*		ng/L	20.13		93.8	40-130			
Surrogate: D3-NMeFOSA	*15.7*		ng/L	20.13		77.8	10-130			
Surrogate: D5-NEtFOSA	*15.9*		ng/L	20.13		79.1	10-130			
Surrogate: D3-NMeFOSAA	*31.2*		ng/L	40.27		77.5	40-170			
Surrogate: D5-NEtFOSAA	*29.9*		ng/L	40.27		74.2	25-135			
Surrogate: D7-NMeFOSE	*166*		ng/L	201.3		82.6	10-130			
Surrogate: D9-NEtFOSE	*161*		ng/L	201.3		80.0	10-130			
Surrogate: 13C3-HFPO-DA	*74.0*		ng/L	80.53		91.8	40-130			
Matrix Spike Dup (B395061-MSD1)	**Source: 24L0334-15RE1**			Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	73.2	6.4	ng/L	79.92	1.44	89.8	70-140	2.80	25	
Perfluoropentanoic acid (PFPeA)	39.6	3.2	ng/L	39.96	2.63	92.5	65-135	2.00	25	
Perfluorohexanoic acid (PFHxA)	20.9	1.6	ng/L	19.98	1.65	96.5	70-145	2.25	25	
Perfluoroheptanoic acid (PFHpA)	19.6	1.6	ng/L	19.98	0.721	94.5	70-150	2.62	25	
Perfluorooctanoic acid (PFOA)	21.6	1.6	ng/L	19.98	2.69	94.5	70-150	1.11	25	
Perfluorononanoic acid (PFNA)	18.5	1.6	ng/L	19.98	ND	92.5	70-150	2.27	25	
Perfluorodecanoic acid (PFDA)	19.4	1.6	ng/L	19.98	ND	97.2	70-140	2.62	25	
Perfluoroundecanoic acid (PFUnA)	19.6	1.6	ng/L	19.98	ND	98.0	70-145	5.69	25	
Perfluorododecanoic acid (PFDoA)	19.6	1.6	ng/L	19.98	ND	98.1	70-140	4.27	25	
Perfluorotridecanoic acid (PFTrDA)	18.7	1.6	ng/L	19.98	ND	93.4	65-140	1.97	25	
Perfluorotetradecanoic acid (PFTeDA)	20.0	1.6	ng/L	19.98	ND	99.9	60-140	3.75	25	
Perfluorobutanesulfonic acid (PFBS)	19.3	1.6	ng/L	17.74	1.49	100	60-145	5.29	25	
Perfluoropentanesulfonic acid (PFPeS)	17.0	1.6	ng/L	18.78	ND	90.8	65-140	8.41	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
Matrix Spike Dup (B395061-MSD1)	**Source: 24L0334-15RE1**			Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorohexanesulfonic acid (PFHxS)	18.2	1.6	ng/L	18.22	1.53	91.7	65-145	5.83	25	
Perfluoroheptanesulfonic acid (PFHpS)	18.8	1.6	ng/L	19.02	ND	98.8	70-150	4.58	25	
Perfluorooctanesulfonic acid (PFOS)	18.2	1.6	ng/L	18.54	0.751	94.1	55-150	2.88	25	
Perfluorononanesulfonic acid (PFNS)	18.9	1.6	ng/L	19.18	ND	98.5	65-145	3.02	25	
Perfluorodecanesulfonic acid (PFDS)	17.8	1.6	ng/L	19.26	ND	92.4	60-145	0.647	25	
Perfluorododecanesulfonic acid (PFDoS)	18.0	1.6	ng/L	19.34	ND	93.2	50-145	9.92	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	70.4	6.4	ng/L	74.88	ND	94.0	70-145	6.18	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	71.7	6.4	ng/L	76.00	ND	94.3	65-155	7.10	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	72.3	6.4	ng/L	76.72	ND	94.2	60-150	9.87	25	
Perfluorooctanesulfonamide (PFOSA)	20.4	1.6	ng/L	19.98	ND	102	70-145	2.77	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	19.0	1.6	ng/L	19.98	ND	95.3	60-150	5.36	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.9	1.6	ng/L	19.98	ND	94.8	65-145	0.710	25	
N-MeFOSAA (NMeFOSAA)	18.8	1.6	ng/L	19.98	ND	93.9	50-140	2.56	25	
N-EtFOSAA (NEtFOSAA)	19.6	1.6	ng/L	19.98	ND	97.9	70-145	3.49	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	195	16	ng/L	199.8	ND	97.7	70-145	0.293	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	195	16	ng/L	199.8	ND	97.4	70-135	2.70	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	77.1	6.4	ng/L	79.92	ND	96.4	70-140	6.14	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	69.9	6.4	ng/L	75.52	ND	92.6	65-145	1.59	25	
9Cl-PF3ONS (F53B Minor)	74.0	6.4	ng/L	74.56	ND	99.3	70-155	3.80	25	
11Cl-PF3OUdS (F53B Major)	71.1	6.4	ng/L	74.64	ND	95.2	55-160	3.22	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	88.1	8.0	ng/L	99.90	ND	88.2	65-130	1.00	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	462	40	ng/L	499.5	ND	92.6	70-135	0.831	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	470	40	ng/L	499.5	ND	94.1	50-145	0.306	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	33.2	3.2	ng/L	35.64	ND	93.1	70-140	2.93	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	39.1	3.2	ng/L	39.96	ND	97.9	55-140	4.81	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	38.2	3.2	ng/L	39.96	ND	95.6	60-150	4.00	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	36.1	3.2	ng/L	39.96	ND	90.4	50-150	7.75	25	
Surrogate: 13C4-PFBA	*74.5*		ng/L	79.92		93.2	5-130			
Surrogate: 13C5-PFPeA	*39.3*		ng/L	39.96		98.3	40-130			
Surrogate: 13C5-PFHxA	*19.6*		ng/L	19.98		98.3	40-130			
Surrogate: 13C4-PFHpA	*20.2*		ng/L	19.98		101	40-130			
Surrogate: 13C8-PFOA	*19.1*		ng/L	19.98		95.4	40-130			
Surrogate: 13C9-PFNA	*9.81*		ng/L	9.990		98.2	40-130			
Surrogate: 13C6-PFDA	*9.67*		ng/L	9.990		96.8	40-130			
Surrogate: 13C7-PFUnA	*9.24*		ng/L	9.990		92.4	30-130			
Surrogate: 13C2-PFDoA	*8.87*		ng/L	9.990		88.8	10-130			
Surrogate: 13C2-PFTeDA	*8.43*		ng/L	9.990		84.3	10-130			
Surrogate: 13C3-PFBS	*18.6*		ng/L	19.98		93.3	40-135			
Surrogate: 13C3-PFHxS	*19.5*		ng/L	19.98		97.4	40-130			
Surrogate: 13C8-PFOS	*19.0*		ng/L	19.98		95.1	40-130			
Surrogate: 13C2-4:2FTS	*44.8*		ng/L	39.96		112	40-200			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B395061 - EPA 1633										
Matrix Spike Dup (B395061-MSD1)		**Source: 24L0334-15RE1**		Prepared: 12/19/24 Analyzed: 12/23/24						
Surrogate: 13C2-6:2FTS	*41.9*		ng/L	39.96		105	40-200			
Surrogate: 13C2-8:2FTS	*35.1*		ng/L	39.96		87.7	40-300			
Surrogate: 13C8-PFOSA	*19.3*		ng/L	19.98		96.5	40-130			
Surrogate: D3-NMeFOSA	*18.0*		ng/L	19.98		90.1	10-130			
Surrogate: D5-NEtFOSA	*17.9*		ng/L	19.98		89.8	10-130			
Surrogate: D3-NMeFOSAA	*37.7*		ng/L	39.96		94.2	40-170			
Surrogate: D5-NEtFOSAA	*35.6*		ng/L	39.96		89.1	25-135			
Surrogate: D7-NMeFOSE	*184*		ng/L	199.8		91.9	10-130			
Surrogate: D9-NEtFOSE	*183*		ng/L	199.8		91.7	10-130			
Surrogate: 13C3-HFPO-DA	*82.3*		ng/L	79.92		103	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires

24L0334 RF

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Phone: 413-525-2332
Fax: 413-525-6405

Pace

Report To:	Michael Baker Int'l
Address:	100 Airside Dr
Phone:	412-269-6300
Project Name:	Saegertown PFAS
Project Location:	Saegertown PA
Project Number:	109432
Project Manager:	Chris Kupfer
Con-Test Quote Name/Number:	00157747
Invoice Recipient:	MBE
Sampled By:	Brad Mikula / Austin Lavy

Turnaround Time:
- 7-Day ☐ 10-Day ☐
- PFAS (5-Day std) ☒ Due Date:
- 1-Day ☐ 3-Day ☐
- 2-Day ☐ 4-Day ☐

Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Field Filtered ○ / Lab to Filter ○ (PFAS)
Field Filtered ○ / Lab to Filter ○ (TSS)

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
1	BMW-1	12/2/24	1630	G	GW				3			X	X
2	GM-24S	12/3/24	1130										
3	GM-24S Dup		1135										
4	GM-24D		1155										
5	BMW-8		1340										
6	BMW-7		1435										
7	BMW-6		1640										
8	BMW-9		1810										
9	SBMW-1		1450										

[2] Preservation Code

Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 12/4/24 1400	Client Comments:
Received by: (signature) PACE	Date/Time: 12/4/24 14:00	
Relinquished by: (signature) PACE	Date/Time: 12/4/24 17:00	
Received by: (signature) Buffalo SE	Date/Time: 12/4/24 1700	
Relinquished by: (signature) Russell B Bibby	Date/Time: 12-4-24 17:40	
Received by: (signature) G.2, O.8	Date/Time: 12/5/24 0743	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

MA: ☐ MA MCP Required
MCP Certification Form Required
CT RCP Required: ☐
RCP Certification Form Required
MA State DW Required: ☐
NELAC and AIHA-LAP, LLC Accredited
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government	☒	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analytes the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Phone: 413-525-2332

Company:	Michael Baker Int'l
Address:	100 Airside Dr
Phone:	412-269-6300
Project Name:	Saegertown PFAS
Project Location:	Saegertown, PA
Project Number:	189432
Project Manager:	Chris Kupfer
Con-Test Quote Name/Number:	20157747
Invoice Recipient:	MBI
Sampled By:	Brad Mikula / A. Lavy

7-Day		10-Day		Field Filtered	
PFAS 15 Day (std)	X	Due Date:		Lab to Filter	
1-Day		3-Day		Field Filtered	
2-Day		4-Day		Lab to Filter	

Format: PDF X EXCEL

Other:

CLP Like Data Pkg Required:

Email To: ckupfer@mbakerintl.com

Fax To #:

PCB ONLY

SOXHLET

NON SOXHLET

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Comp/Grab	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
10	BMW-10	12/3/24	1730	G	GW				3			X	X
	BMW-10MS	↓	1730	↓	↓				↓			↓	↓
	BMW-10MSD	↓	1730	↓	↓				↓			↓	↓
11	OB-6-100	12/4/24	1215	↓	↓				↓			↓	↓
12	SBW	↓	0940	↓	↓				↓			↓	↓
13	BMW-5	↓	1020	↓	↓				↓			↓	↓
14	PW-2	↓	1100	↓	↓				↓			↓	↓
15	PW-1	↓	1120	↓	↓				↓			↓	↓
	PW-1 MS	↓	1120	↓	↓				↓			↓	↓
	PW-1 MSD	↓	1120	↓	↓				↓			↓	↓

Relinquished by: (signature)	Date/Time:
BL Shm	12/4/24 1400
Received by: (signature)	Date/Time:
Jon Al PACE	12/4/24 1400
Relinquished by: (signature)	Date/Time:
Jon Al PACE	12/4/24 1700
Received by: (signature)	Date/Time:
Bill Fido SC	12/4/24 17:00
Relinquished by: (signature)	Date/Time:
Russell B Bahy	12-4-24 17:00
Received by: (signature)	Date/Time:
Jyenyin 0.2.0.8	12/5/24 0743
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

MA MCP Required
MCP Certification Form Required
CT RCP Required
RCP Certification Form Required
MA State DW Required

PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

MCP & RCP-LAP, LLC Accredited

Project Entity

Government	X	Municipality		MWRA		WRTA	
Federal		21 J		School			
City		Brownfield		MBTA			

Other
- Chromatogram
- AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Preservation Code

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

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Doc # 381 Rev 2_06262019

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Pace Phone: 413-525-2332

39 Spruce Street
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

ANALYSIS REQUESTED

Michael Baker Int'l

Address: 100 Airside Dr
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 184432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula / A. Lavy

Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☒ Due Date:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Field Filtered ○
Lab to Filter ○
Field Filtered ○
Lab to Filter ○

Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To: chupfer@mbakerintl.com
Fax To #:

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite/Grab	Matrix Code	Cont. Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
16	PW-6	12/4/24	1205	G	GW				3			X	X
17	PW-7	↓	1220	↓	↓				↓			↓	↓
18	PW-7 Dup	↓	1225	↓	↓				↓			↓	↓
19	FB-1224	↓	1230	G	W				1			X	X

[2] Preservation Code

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
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A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
[signature]	12/4/24 1400
Received by: (signature) Jon Al PACE	Date/Time: 12/4/24 14:22
Relinquished by: (signature) Jon Al PACE	12/4/24 17:00
Received by: (signature) BUFFalo SC	Date/Time: 12/4/24 1700
Relinquished by: (signature) Russell B Bixby	Date/Time: 12-4-24 1700
Received by: (signature) Byafu 0.2,0 8	Date/Time: 12/5/24 0743
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
Chromatogram ☐
AIHA-LAP,LLC ☐

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project #169432

MCP/RCP Required no

Deliverable Package Requirement none

Location Sagertown, PA

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time RL 12/5/24 0743

Back-Sheet By / Date / Time MCM 12/6/24 0227

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 0.2, 0.8

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☐	☑
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL		3							←	6	2				←	5	2		←	1	
Sulfuric																						
Unpreserved	250mL																					
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 24, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24L0503

Enclosed are results of analyses for samples as received by the laboratory on December 6, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 12/24/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24L0503

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
OB-7-50	24L0503-01	Ground Water		EPA 1633	
GM-15S	24L0503-02	Ground Water		EPA 1633	
GM-15D	24L0503-03	Ground Water		EPA 1633	
OB-7-100	24L0503-04	Ground Water		EPA 1633	
BMW-4	24L0503-05	Ground Water		EPA 1633	
BMW-3	24L0503-06	Ground Water		EPA 1633	
BMW-3DUP	24L0503-07	Ground Water		EPA 1633	
BMW-2	24L0503-08	Ground Water		EPA 1633	
OB-6-50	24L0503-09	Ground Water		EPA 1633	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

OB-6-50 to be analyzed for PFAS 1633. 12/10/24

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

EPA 1633

Qualifications:

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

24L0503-06RE2[BMW-3], 24L0503-07RE2[BMW-3DUP], 24L0503-08RE2[BMW-2]

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

D7-NMeFOSE
S115831-CCB3

D9-NEtFOSE
S115831-CCB3

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
S115831-CCB3

N-methylperfluorooctanesulfonamidoethanol(NMeF
S115831-CCB3

PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluoroundecanoic acid (PFUnA)
24L0503-04[OB-7-100]

S-29

Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

13C2-8:2FTS
24L0503-01[OB-7-50]

13C2-PFDoA
S115852-CCB4

13C2-PFTeDA
S115852-CCB3, S115852-CCB4, S115852-CCB5, S115852-CCV4, S115852-CCV5

13C6-PFDA
24L0503-01[OB-7-50]

13C8-PFOS
24L0503-01[OB-7-50], 24L0503-01RE2[OB-7-50]

1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FT
24L0503-01[OB-7-50]

D3-NMeFOSAA
24L0503-01[OB-7-50]

D5-NEtFOSAA
S115852-CCB3, S115852-CCB4, S115852-CCB5, S115852-CCV5

N-EtFOSAA (NEtFOSAA)
S115852-CCB3, S115852-CCB4, S115852-CCB5, S115852-CCV5

N-MeFOSAA (NMeFOSAA)
24L0503-01[OB-7-50]

Perfluorodecanoic acid (PFDA)
24L0503-01[OB-7-50]

Perfluorododecanoic acid (PFDoA)
S115852-CCB4

Perfluorooctanesulfonic acid (PFOS)
24L0503-01RE2[OB-7-50]

Perfluorotetradecanoic acid (PFTeDA)
S115852-CCB3, S115852-CCB4, S115852-CCB5, S115852-CCV4, S115852-CCV5

Perfluorotridecanoic acid (PFTrDA)
S115852-CCB4

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS
S115852-CCV4, S115852-CCV5

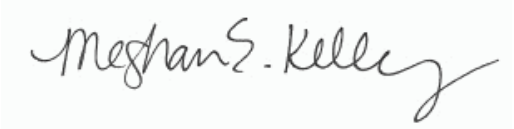
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
S115852-CCV5

N-MeFOSAA (NMeFOSAA)
S115852-CCV4, S115852-CCV5

Perfluorotridecanoic acid (PFTrDA)
S115852-CCV4, S115852-CCV5

Perfluoroundecanoic acid (PFUnA)
S115852-CCV5

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-7-50 | Sampled: 12/4/2024 14:15

Sample ID: 24L0503-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoropentanoic acid (PFPeA)	6.8	3.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorohexanoic acid (PFHxA)	15	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoroheptanoic acid (PFHpA)	7.4	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorooctanoic acid (PFOA)	21	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorononanoic acid (PFNA)	13	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1	S-29	EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorobutanesulfonic acid (PFBS)	19	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoropentanesulfonic acid (PFPeS)	34	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorohexanesulfonic acid (PFHxS)	380	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoroheptanesulfonic acid (PFHpS)	15	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorooctanesulfonic acid (PFOS)	620	15	ng/L	10	D, S-29	EPA 1633	12/12/24	12/20/24 16:30	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1	S-29	EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1	S-29	EPA 1633	12/12/24	12/17/24 3:12	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-7-50 | Sampled: 12/4/2024 14:15

Sample ID: 24L0503-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/12/24	12/17/24 3:12	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	60.3		5-130		12/17/24 3:12
13C5-PFPeA	57.0		40-130		12/17/24 3:12
13C5-PFHxA	52.4		40-130		12/17/24 3:12
13C4-PFHpA	51.3		40-130		12/17/24 3:12
13C8-PFOA	43.0		40-130		12/17/24 3:12
13C9-PFNA	42.3		40-130		12/17/24 3:12
13C6-PFDA	**38.3**	*	40-130	S-29	12/17/24 3:12
13C7-PFUnA	35.9		30-130		12/17/24 3:12
13C2-PFDoA	32.1		10-130		12/17/24 3:12
13C2-PFTeDA	23.0		10-130		12/17/24 3:12
13C3-PFBS	48.4		40-135		12/17/24 3:12
13C3-PFHxS	40.2		40-130		12/17/24 3:12
13C8-PFOS	**36.1**	*	40-130	S-29	12/17/24 3:12
13C8-PFOS	**22.9**	*	40-130	S-29	12/20/24 16:30
13C2-4:2FTS	61.7		40-200		12/17/24 3:12
13C2-6:2FTS	47.5		40-200		12/17/24 3:12
13C2-8:2FTS	**38.0**	*	40-300	S-29	12/17/24 3:12
13C8-PFOSA	46.3		40-130		12/17/24 3:12
D3-NMeFOSA	34.0		10-130		12/17/24 3:12
D5-NEtFOSA	30.4		10-130		12/17/24 3:12
D3-NMeFOSAA	**32.1**	*	40-170	S-29	12/17/24 3:12
D5-NEtFOSAA	27.4		25-135		12/17/24 3:12
D7-NMeFOSE	42.1		10-130		12/17/24 3:12
D9-NEtFOSE	36.2		10-130		12/17/24 3:12
13C3-HFPO-DA	62.9		40-130		12/17/24 3:12

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: GM-15S | Sampled: 12/4/2024 16:40

Sample ID: 24L0503-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorooctanoic acid (PFOA)	1.9	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorononanoic acid (PFNA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorodecanoic acid (PFDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorobutanesulfonic acid (PFBS)	1.9	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorooctanesulfonic acid (PFOS)	3.4	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	14	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	14	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
9Cl-PF3ONS (F53B Minor)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
11Cl-PF3OUdS (F53B Major)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: GM-15S | Sampled: 12/4/2024 16:40

Sample ID: 24L0503-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 3:21	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	96.1	5-130		12/17/24 3:21
13C5-PFPeA	92.7	40-130		12/17/24 3:21
13C5-PFHxA	92.8	40-130		12/17/24 3:21
13C4-PFHpA	98.4	40-130		12/17/24 3:21
13C8-PFOA	90.5	40-130		12/17/24 3:21
13C9-PFNA	92.2	40-130		12/17/24 3:21
13C6-PFDA	96.6	40-130		12/17/24 3:21
13C7-PFUnA	88.1	30-130		12/17/24 3:21
13C2-PFDoA	81.9	10-130		12/17/24 3:21
13C2-PFTeDA	76.6	10-130		12/17/24 3:21
13C3-PFBS	95.5	40-135		12/17/24 3:21
13C3-PFHxS	92.0	40-130		12/17/24 3:21
13C8-PFOS	91.7	40-130		12/17/24 3:21
13C2-4:2FTS	132	40-200		12/17/24 3:21
13C2-6:2FTS	109	40-200		12/17/24 3:21
13C2-8:2FTS	84.3	40-300		12/17/24 3:21
13C8-PFOSA	88.1	40-130		12/17/24 3:21
D3-NMeFOSA	79.4	10-130		12/17/24 3:21
D5-NEtFOSA	77.6	10-130		12/17/24 3:21
D3-NMeFOSAA	93.6	40-170		12/17/24 3:21
D5-NEtFOSAA	91.6	25-135		12/17/24 3:21
D7-NMeFOSE	90.4	10-130		12/17/24 3:21
D9-NEtFOSE	87.4	10-130		12/17/24 3:21
13C3-HFPO-DA	101	40-130		12/17/24 3:21

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: GM-15D | Sampled: 12/4/2024 17:00

Sample ID: 24L0503-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: GM-15D | Sampled: 12/4/2024 17:00

Sample ID: 24L0503-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:31	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	93.8	5-130		12/17/24 3:31
13C5-PFPeA	93.6	40-130		12/17/24 3:31
13C5-PFHxA	93.0	40-130		12/17/24 3:31
13C4-PFHpA	99.1	40-130		12/17/24 3:31
13C8-PFOA	91.3	40-130		12/17/24 3:31
13C9-PFNA	99.2	40-130		12/17/24 3:31
13C6-PFDA	87.1	40-130		12/17/24 3:31
13C7-PFUnA	79.1	30-130		12/17/24 3:31
13C2-PFDoA	76.3	10-130		12/17/24 3:31
13C2-PFTeDA	69.5	10-130		12/17/24 3:31
13C3-PFBS	86.9	40-135		12/17/24 3:31
13C3-PFHxS	84.8	40-130		12/17/24 3:31
13C8-PFOS	84.5	40-130		12/17/24 3:31
13C2-4:2FTS	99.3	40-200		12/17/24 3:31
13C2-6:2FTS	89.7	40-200		12/17/24 3:31
13C2-8:2FTS	80.9	40-300		12/17/24 3:31
13C8-PFOSA	85.9	40-130		12/17/24 3:31
D3-NMeFOSA	71.1	10-130		12/17/24 3:31
D5-NEtFOSA	67.8	10-130		12/17/24 3:31
D3-NMeFOSAA	83.4	40-170		12/17/24 3:31
D5-NEtFOSAA	82.3	25-135		12/17/24 3:31
D7-NMeFOSE	82.8	10-130		12/17/24 3:31
D9-NEtFOSE	81.1	10-130		12/17/24 3:31
13C3-HFPO-DA	103	40-130		12/17/24 3:31

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-7-100 | Sampled: 12/4/2024 17:55

Sample ID: 24L0503-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorohexanoic acid (PFHxA)	4.4	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorooctanoic acid (PFOA)	3.0	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorononanoic acid (PFNA)	1.6	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorodecanoic acid (PFDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoroundecanoic acid (PFUnA)	1.7	1.4	ng/L	1	PF-23	EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorobutanesulfonic acid (PFBS)	4.5	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoropentanesulfonic acid (PFPeS)	5.3	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorohexanesulfonic acid (PFHxS)	130	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoroheptanesulfonic acid (PFHpS)	3.8	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorooctanesulfonic acid (PFOS)	340	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.4	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	14	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	14	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
9Cl-PF3ONS (F53B Minor)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
11Cl-PF3OUdS (F53B Major)	ND	5.7	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.1	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-7-100 | Sampled: 12/4/2024 17:55

Sample ID: 24L0503-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.8	ng/L	1		EPA 1633	12/12/24	12/17/24 3:40	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	81.6	5-130		12/17/24 3:40
13C5-PFPeA	81.8	40-130		12/17/24 3:40
13C5-PFHxA	81.9	40-130		12/17/24 3:40
13C4-PFHpA	88.7	40-130		12/17/24 3:40
13C8-PFOA	82.0	40-130		12/17/24 3:40
13C9-PFNA	81.7	40-130		12/17/24 3:40
13C6-PFDA	80.7	40-130		12/17/24 3:40
13C7-PFUnA	75.2	30-130		12/17/24 3:40
13C2-PFDoA	65.4	10-130		12/17/24 3:40
13C2-PFTeDA	63.2	10-130		12/17/24 3:40
13C3-PFBS	83.1	40-135		12/17/24 3:40
13C3-PFHxS	78.4	40-130		12/17/24 3:40
13C8-PFOS	76.1	40-130		12/17/24 3:40
13C2-4:2FTS	161	40-200		12/17/24 3:40
13C2-6:2FTS	93.6	40-200		12/17/24 3:40
13C2-8:2FTS	76.4	40-300		12/17/24 3:40
13C8-PFOSA	93.3	40-130		12/17/24 3:40
D3-NMeFOSA	84.4	10-130		12/17/24 3:40
D5-NEtFOSA	79.9	10-130		12/17/24 3:40
D3-NMeFOSAA	85.8	40-170		12/17/24 3:40
D5-NEtFOSAA	78.6	25-135		12/17/24 3:40
D7-NMeFOSE	89.8	10-130		12/17/24 3:40
D9-NEtFOSE	87.7	10-130		12/17/24 3:40
13C3-HFPO-DA	91.2	40-130		12/17/24 3:40

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-4 | Sampled: 12/4/2024 18:20

Sample ID: 24L0503-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.2	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoropentanoic acid (PFPeA)	14	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorohexanoic acid (PFHxA)	26	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoroheptanoic acid (PFHpA)	5.5	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorooctanoic acid (PFOA)	19	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorononanoic acid (PFNA)	14	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorobutanesulfonic acid (PFBS)	27	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoropentanesulfonic acid (PFPeS)	34	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorohexanesulfonic acid (PFHxS)	360	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoroheptanesulfonic acid (PFHpS)	24	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorooctanesulfonic acid (PFOS)	1000	16	ng/L	10	D	EPA 1633	12/12/24	12/18/24 17:49	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-4 | Sampled: 12/4/2024 18:20

Sample ID: 24L0503-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/12/24	12/17/24 3:49	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	95.4	5-130		12/17/24 3:49
13C5-PFPeA	90.2	40-130		12/17/24 3:49
13C5-PFHxA	94.2	40-130		12/17/24 3:49
13C4-PFHpA	106	40-130		12/17/24 3:49
13C8-PFOA	90.8	40-130		12/17/24 3:49
13C9-PFNA	93.6	40-130		12/17/24 3:49
13C6-PFDA	94.3	40-130		12/17/24 3:49
13C7-PFUnA	92.6	30-130		12/17/24 3:49
13C2-PFDoA	79.8	10-130		12/17/24 3:49
13C2-PFTeDA	71.5	10-130		12/17/24 3:49
13C3-PFBS	99.7	40-135		12/17/24 3:49
13C3-PFHxS	86.7	40-130		12/17/24 3:49
13C8-PFOS	96.7	40-130		12/17/24 3:49
13C8-PFOS	96.1	40-130		12/18/24 17:49
13C2-4:2FTS	98.5	40-200		12/17/24 3:49
13C2-6:2FTS	103	40-200		12/17/24 3:49
13C2-8:2FTS	96.0	40-300		12/17/24 3:49
13C8-PFOSA	108	40-130		12/17/24 3:49
D3-NMeFOSA	102	10-130		12/17/24 3:49
D5-NEtFOSA	96.1	10-130		12/17/24 3:49
D3-NMeFOSAA	113	40-170		12/17/24 3:49
D5-NEtFOSAA	99.0	25-135		12/17/24 3:49
D7-NMeFOSE	110	10-130		12/17/24 3:49
D9-NEtFOSE	105	10-130		12/17/24 3:49
13C3-HFPO-DA	104	40-130		12/17/24 3:49

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-3 | Sampled: 12/5/2024 13:00

Sample ID: 24L0503-06

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoropentanoic acid (PFPeA)	85	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorohexanoic acid (PFHxA)	41	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoroheptanoic acid (PFHpA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorooctanoic acid (PFOA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorononanoic acid (PFNA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorodecanoic acid (PFDA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoroundecanoic acid (PFUnA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorododecanoic acid (PFDoA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorotridecanoic acid (PFTrDA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorobutanesulfonic acid (PFBS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorohexanesulfonic acid (PFHxS)	290	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorooctanesulfonic acid (PFOS)	2200	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorononanesulfonic acid (PFNS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorodecanesulfonic acid (PFDS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluorooctanesulfonamide (PFOSA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-MeFOSAA (NMeFOSAA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-EtFOSAA (NEtFOSAA)	ND	16	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	160	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	160	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
9Cl-PF3ONS (F53B Minor)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
11Cl-PF3OUdS (F53B Major)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	80	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	400	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	400	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-3 | Sampled: 12/5/2024 13:00

Sample ID: 24L0503-06

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:20	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	105	5-130		12/23/24 16:20
13C5-PFPeA	105	40-130		12/23/24 16:20
13C5-PFHxA	106	40-130		12/23/24 16:20
13C4-PFHpA	111	40-130		12/23/24 16:20
13C8-PFOA	106	40-130		12/23/24 16:20
13C9-PFNA	99.1	40-130		12/23/24 16:20
13C6-PFDA	99.4	40-130		12/23/24 16:20
13C7-PFUnA	103	30-130		12/23/24 16:20
13C2-PFDoA	103	10-130		12/23/24 16:20
13C2-PFTeDA	97.4	10-130		12/23/24 16:20
13C3-PFBS	106	40-135		12/23/24 16:20
13C3-PFHxS	106	40-130		12/23/24 16:20
13C8-PFOS	105	40-130		12/23/24 16:20
13C2-4:2FTS	133	40-200		12/23/24 16:20
13C2-6:2FTS	118	40-200		12/23/24 16:20
13C2-8:2FTS	97.7	40-300		12/23/24 16:20
13C8-PFOSA	113	40-130		12/23/24 16:20
D3-NMeFOSA	98.5	10-130		12/23/24 16:20
D5-NEtFOSA	101	10-130		12/23/24 16:20
D3-NMeFOSAA	112	40-170		12/23/24 16:20
D5-NEtFOSAA	102	25-135		12/23/24 16:20
D7-NMeFOSE	110	10-130		12/23/24 16:20
D9-NEtFOSE	110	10-130		12/23/24 16:20
13C3-HFPO-DA	108	40-130		12/23/24 16:20

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-3DUP | Sampled: 12/5/2024 13:05

Sample ID: 24L0503-07

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoropentanoic acid (PFPeA)	74	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorohexanoic acid (PFHxA)	54	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoroheptanoic acid (PFHpA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorooctanoic acid (PFOA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorononanoic acid (PFNA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorodecanoic acid (PFDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoroundecanoic acid (PFUnA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorododecanoic acid (PFDoA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorotridecanoic acid (PFTrDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorobutanesulfonic acid (PFBS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorohexanesulfonic acid (PFHxS)	560	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorooctanesulfonic acid (PFOS)	3500	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorononanesulfonic acid (PFNS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorodecanesulfonic acid (PFDS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluorooctanesulfonamide (PFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-MeFOSAA (NMeFOSAA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-EtFOSAA (NEtFOSAA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	320	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	320	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
9Cl-PF3ONS (F53B Minor)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
11Cl-PF3OUdS (F53B Major)	ND	130	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	160	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	800	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	800	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-3DUP | Sampled: 12/5/2024 13:05

Sample ID: 24L0503-07

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/23/24 16:29	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	93.3	5-130		12/23/24 16:29
13C5-PFPeA	93.1	40-130		12/23/24 16:29
13C5-PFHxA	93.1	40-130		12/23/24 16:29
13C4-PFHpA	94.3	40-130		12/23/24 16:29
13C8-PFOA	92.3	40-130		12/23/24 16:29
13C9-PFNA	91.0	40-130		12/23/24 16:29
13C6-PFDA	90.9	40-130		12/23/24 16:29
13C7-PFUnA	91.0	30-130		12/23/24 16:29
13C2-PFDoA	89.4	10-130		12/23/24 16:29
13C2-PFTeDA	89.0	10-130		12/23/24 16:29
13C3-PFBS	89.7	40-135		12/23/24 16:29
13C3-PFHxS	91.1	40-130		12/23/24 16:29
13C8-PFOS	93.2	40-130		12/23/24 16:29
13C2-4:2FTS	114	40-200		12/23/24 16:29
13C2-6:2FTS	101	40-200		12/23/24 16:29
13C2-8:2FTS	84.1	40-300		12/23/24 16:29
13C8-PFOSA	94.4	40-130		12/23/24 16:29
D3-NMeFOSA	81.3	10-130		12/23/24 16:29
D5-NEtFOSA	85.2	10-130		12/23/24 16:29
D3-NMeFOSAA	92.9	40-170		12/23/24 16:29
D5-NEtFOSAA	92.0	25-135		12/23/24 16:29
D7-NMeFOSE	91.7	10-130		12/23/24 16:29
D9-NEtFOSE	90.3	10-130		12/23/24 16:29
13C3-HFPO-DA	95.0	40-130		12/23/24 16:29

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-2 | Sampled: 12/5/2024 12:35

Sample ID: 24L0503-08

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoropentanoic acid (PFPeA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorohexanoic acid (PFHxA)	47	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoroheptanoic acid (PFHpA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorooctanoic acid (PFOA)	38	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorononanoic acid (PFNA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorodecanoic acid (PFDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoroundecanoic acid (PFUnA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorododecanoic acid (PFDoA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorotridecanoic acid (PFTrDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorobutanesulfonic acid (PFBS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoropentanesulfonic acid (PFPeS)	39	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorohexanesulfonic acid (PFHxS)	710	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorooctanesulfonic acid (PFOS)	3500	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorononanesulfonic acid (PFNS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorodecanesulfonic acid (PFDS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluorooctanesulfonamide (PFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-MeFOSAA (NMeFOSAA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-EtFOSAA (NEtFOSAA)	ND	32	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	320	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	320	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
9Cl-PF3ONS (F53B Minor)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
11Cl-PF3OUdS (F53B Major)	ND	130	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	160	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	800	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	800	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: BMW-2 | Sampled: 12/5/2024 12:35

Sample ID: 24L0503-08

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	64	ng/L	1		EPA 1633	12/19/24	12/24/24 0:00	AB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	79.4	5-130		12/24/24 0:00
13C5-PFPeA	76.5	40-130		12/24/24 0:00
13C5-PFHxA	78.4	40-130		12/24/24 0:00
13C4-PFHpA	78.1	40-130		12/24/24 0:00
13C8-PFOA	81.8	40-130		12/24/24 0:00
13C9-PFNA	74.5	40-130		12/24/24 0:00
13C6-PFDA	78.7	40-130		12/24/24 0:00
13C7-PFUnA	77.8	30-130		12/24/24 0:00
13C2-PFDoA	74.8	10-130		12/24/24 0:00
13C2-PFTeDA	68.2	10-130		12/24/24 0:00
13C3-PFBS	79.5	40-135		12/24/24 0:00
13C3-PFHxS	77.4	40-130		12/24/24 0:00
13C8-PFOS	78.6	40-130		12/24/24 0:00
13C2-4:2FTS	97.9	40-200		12/24/24 0:00
13C2-6:2FTS	88.1	40-200		12/24/24 0:00
13C2-8:2FTS	76.4	40-300		12/24/24 0:00
13C8-PFOSA	76.7	40-130		12/24/24 0:00
D3-NMeFOSA	57.4	10-130		12/24/24 0:00
D5-NEtFOSA	58.1	10-130		12/24/24 0:00
D3-NMeFOSAA	76.6	40-170		12/24/24 0:00
D5-NEtFOSAA	70.9	25-135		12/24/24 0:00
D7-NMeFOSE	71.6	10-130		12/24/24 0:00
D9-NEtFOSE	67.7	10-130		12/24/24 0:00
13C3-HFPO-DA	81.9	40-130		12/24/24 0:00

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-6-50 | Sampled: 12/5/2024 00:00

Sample ID: 24L0503-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	9.7	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoropentanoic acid (PFPeA)	18	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorohexanoic acid (PFHxA)	38	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoroheptanoic acid (PFHpA)	10	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorooctanoic acid (PFOA)	28	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorononanoic acid (PFNA)	22	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorobutanesulfonic acid (PFBS)	38	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoropentanesulfonic acid (PFPeS)	45	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorohexanesulfonic acid (PFHxS)	490	15	ng/L	10	D	EPA 1633	12/12/24	12/18/24 17:58	AB
Perfluoroheptanesulfonic acid (PFHpS)	40	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorooctanesulfonic acid (PFOS)	2100	15	ng/L	10	D	EPA 1633	12/12/24	12/18/24 17:58	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
9Cl-PF3ONS (F53B Minor)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
11Cl-PF3OUdS (F53B Major)	ND	5.8	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.3	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	36	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0503

Date Received: 12/6/2024

Field Sample #: OB-6-50 | Sampled: 12/5/2024 00:00

Sample ID: 24L0503-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.9	ng/L	1		EPA 1633	12/12/24	12/17/24 4:26	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	78.8	5-130		12/17/24 4:26
13C5-PFPeA	81.3	40-130		12/17/24 4:26
13C5-PFHxA	78.7	40-130		12/17/24 4:26
13C4-PFHpA	86.5	40-130		12/17/24 4:26
13C8-PFOA	75.8	40-130		12/17/24 4:26
13C9-PFNA	74.4	40-130		12/17/24 4:26
13C6-PFDA	77.7	40-130		12/17/24 4:26
13C7-PFUnA	78.4	30-130		12/17/24 4:26
13C2-PFDoA	69.8	10-130		12/17/24 4:26
13C2-PFTeDA	59.9	10-130		12/17/24 4:26
13C3-PFBS	79.5	40-135		12/17/24 4:26
13C3-PFHxS	71.3	40-130		12/17/24 4:26
13C3-PFHxS	80.6	40-130		12/18/24 17:58
13C8-PFOS	68.0	40-130		12/17/24 4:26
13C8-PFOS	79.9	40-130		12/18/24 17:58
13C2-4:2FTS	104	40-200		12/17/24 4:26
13C2-6:2FTS	93.8	40-200		12/17/24 4:26
13C2-8:2FTS	72.8	40-300		12/17/24 4:26
13C8-PFOSA	104	40-130		12/17/24 4:26
D3-NMeFOSA	74.6	10-130		12/17/24 4:26
D5-NEtFOSA	71.2	10-130		12/17/24 4:26
D3-NMeFOSAA	88.1	40-170		12/17/24 4:26
D5-NEtFOSAA	77.9	25-135		12/17/24 4:26
D7-NMeFOSE	96.8	10-130		12/17/24 4:26
D9-NEtFOSE	94.5	10-130		12/17/24 4:26
13C3-HFPO-DA	91.5	40-130		12/17/24 4:26

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0503-01 [OB-7-50]	B394096	536	4.00	12/12/24
24L0503-01RE2 [OB-7-50]	B394096	536	4.00	12/12/24
24L0503-02 [GM-15S]	B394096	554	4.00	12/12/24
24L0503-03 [GM-15D]	B394096	494	4.00	12/12/24
24L0503-04 [OB-7-100]	B394096	563	4.00	12/12/24
24L0503-05 [BMW-4]	B394096	494	4.00	12/12/24
24L0503-05RE1 [BMW-4]	B394096	494	4.00	12/12/24
24L0503-09 [OB-6-50]	B394096	550	4.00	12/12/24
24L0503-09RE1 [OB-6-50]	B394096	550	4.00	12/12/24

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0503-06RE2 [BMW-3]	B394803	50.0	4.00	12/19/24
24L0503-07RE2 [BMW-3DUP]	B394803	25.0	4.00	12/19/24

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0503-08RE2 [BMW-2]	B394931	25.0	4.00	12/19/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394096 - EPA 1633										
Blank (B394096-BLK1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*82.3*		ng/L	78.77		105	5-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394096 - EPA 1633										
Blank (B394096-BLK1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Surrogate: 13C5-PFPeA	*41.4*		ng/L	39.38		105	40-130			
Surrogate: 13C5-PFHxA	*20.7*		ng/L	19.69		105	40-130			
Surrogate: 13C4-PFHpA	*21.8*		ng/L	19.69		111	40-130			
Surrogate: 13C8-PFOA	*18.6*		ng/L	19.69		94.4	40-130			
Surrogate: 13C9-PFNA	*10.2*		ng/L	9.846		104	40-130			
Surrogate: 13C6-PFDA	*10.8*		ng/L	9.846		110	40-130			
Surrogate: 13C7-PFUnA	*10.0*		ng/L	9.846		102	30-130			
Surrogate: 13C2-PFDoA	*9.22*		ng/L	9.846		93.6	10-130			
Surrogate: 13C2-PFTeDA	*8.13*		ng/L	9.846		82.5	10-130			
Surrogate: 13C3-PFBS	*20.8*		ng/L	19.69		105	40-135			
Surrogate: 13C3-PFHxS	*19.6*		ng/L	19.69		99.6	40-130			
Surrogate: 13C8-PFOS	*20.0*		ng/L	19.69		101	40-130			
Surrogate: 13C2-4:2FTS	*45.0*		ng/L	39.38		114	40-200			
Surrogate: 13C2-6:2FTS	*43.4*		ng/L	39.38		110	40-200			
Surrogate: 13C2-8:2FTS	*41.6*		ng/L	39.38		106	40-300			
Surrogate: 13C8-PFOSA	*19.1*		ng/L	19.69		96.9	40-130			
Surrogate: D3-NMeFOSA	*15.4*		ng/L	19.69		78.2	10-130			
Surrogate: D5-NEtFOSA	*15.2*		ng/L	19.69		77.3	10-130			
Surrogate: D3-NMeFOSAA	*40.3*		ng/L	39.38		102	40-170			
Surrogate: D5-NEtFOSAA	*39.7*		ng/L	39.38		101	25-135			
Surrogate: D7-NMeFOSE	*184*		ng/L	196.9		93.5	10-130			
Surrogate: D9-NEtFOSE	*179*		ng/L	196.9		90.8	10-130			
Surrogate: 13C3-HFPO-DA	*94.2*		ng/L	78.77		120	40-130			
LCS (B394096-BS1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	82.0	6.3	ng/L	78.70		104	70-140			
Perfluoropentanoic acid (PFPeA)	41.9	3.1	ng/L	39.35		107	65-135			
Perfluorohexanoic acid (PFHxA)	21.9	1.6	ng/L	19.68		111	70-145			
Perfluoroheptanoic acid (PFHpA)	21.0	1.6	ng/L	19.68		107	70-150			
Perfluorooctanoic acid (PFOA)	20.9	1.6	ng/L	19.68		106	70-150			
Perfluorononanoic acid (PFNA)	20.4	1.6	ng/L	19.68		104	70-150			
Perfluorodecanoic acid (PFDA)	21.3	1.6	ng/L	19.68		108	70-140			
Perfluoroundecanoic acid (PFUnA)	22.1	1.6	ng/L	19.68		112	70-145			
Perfluorododecanoic acid (PFDoA)	21.9	1.6	ng/L	19.68		111	70-140			
Perfluorotridecanoic acid (PFTrDA)	21.1	1.6	ng/L	19.68		107	65-140			
Perfluorotetradecanoic acid (PFTeDA)	22.0	1.6	ng/L	19.68		112	60-140			
Perfluorobutanesulfonic acid (PFBS)	19.6	1.6	ng/L	17.47		112	60-145			
Perfluoropentanesulfonic acid (PFPeS)	21.5	1.6	ng/L	18.50		116	65-140			
Perfluorohexanesulfonic acid (PFHxS)	19.3	1.6	ng/L	17.94		108	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	21.8	1.6	ng/L	18.73		116	70-150			
Perfluorooctanesulfonic acid (PFOS)	19.9	1.6	ng/L	18.26		109	55-150			
Perfluorononanesulfonic acid (PFNS)	23.0	1.6	ng/L	18.89		122	65-145			
Perfluorodecanesulfonic acid (PFDS)	22.0	1.6	ng/L	18.97		116	60-145			
Perfluorododecanesulfonic acid (PFDoS)	19.5	1.6	ng/L	19.05		103	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	86.2	6.3	ng/L	73.74		117	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	82.0	6.3	ng/L	74.85		110	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	82.3	6.3	ng/L	75.55		109	60-150			
Perfluorooctanesulfonamide (PFOSA)	21.5	1.6	ng/L	19.68		109	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.7	1.6	ng/L	19.68		110	60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394096 - EPA 1633										
LCS (B394096-BS1)				Prepared: 12/12/24 Analyzed: 12/17/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.0	1.6	ng/L	19.68		107	65-145			
N-MeFOSAA (NMeFOSAA)	21.3	1.6	ng/L	19.68		108	50-140			
N-EtFOSAA (NEtFOSAA)	20.4	1.6	ng/L	19.68		104	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	216	16	ng/L	196.8		110	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	218	16	ng/L	196.8		111	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	87.2	6.3	ng/L	78.70		111	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	73.3	6.3	ng/L	74.37		98.6	65-145			
9Cl-PF3ONS (F53B Minor)	83.6	6.3	ng/L	73.43		114	70-155			
11Cl-PF3OUdS (F53B Major)	80.8	6.3	ng/L	73.51		110	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	98.9	7.9	ng/L	98.38		101	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	502	39	ng/L	491.9		102	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	495	39	ng/L	491.9		101	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	38.0	3.1	ng/L	35.10		108	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	41.9	3.1	ng/L	39.35		107	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.9	3.1	ng/L	39.35		112	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	50.2	3.1	ng/L	39.35		128	50-150			
Surrogate: 13C4-PFBA	*79.3*		ng/L	78.70		101	5-130			
Surrogate: 13C5-PFPeA	*39.6*		ng/L	39.35		101	40-130			
Surrogate: 13C5-PFHxA	*19.5*		ng/L	19.68		99.1	40-130			
Surrogate: 13C4-PFHpA	*20.9*		ng/L	19.68		106	40-130			
Surrogate: 13C8-PFOA	*20.3*		ng/L	19.68		103	40-130			
Surrogate: 13C9-PFNA	*9.97*		ng/L	9.838		101	40-130			
Surrogate: 13C6-PFDA	*9.82*		ng/L	9.838		99.8	40-130			
Surrogate: 13C7-PFUnA	*9.47*		ng/L	9.838		96.3	30-130			
Surrogate: 13C2-PFDoA	*8.90*		ng/L	9.838		90.5	10-130			
Surrogate: 13C2-PFTeDA	*8.32*		ng/L	9.838		84.6	10-130			
Surrogate: 13C3-PFBS	*19.2*		ng/L	19.68		97.8	40-135			
Surrogate: 13C3-PFHxS	*18.8*		ng/L	19.68		95.7	40-130			
Surrogate: 13C8-PFOS	*18.3*		ng/L	19.68		92.9	40-130			
Surrogate: 13C2-4:2FTS	*38.9*		ng/L	39.35		98.8	40-200			
Surrogate: 13C2-6:2FTS	*39.6*		ng/L	39.35		101	40-200			
Surrogate: 13C2-8:2FTS	*38.4*		ng/L	39.35		97.6	40-300			
Surrogate: 13C8-PFOSA	*18.7*		ng/L	19.68		95.3	40-130			
Surrogate: D3-NMeFOSA	*14.4*		ng/L	19.68		73.1	10-130			
Surrogate: D5-NEtFOSA	*14.6*		ng/L	19.68		74.1	10-130			
Surrogate: D3-NMeFOSAA	*39.9*		ng/L	39.35		101	40-170			
Surrogate: D5-NEtFOSAA	*39.0*		ng/L	39.35		99.2	25-135			
Surrogate: D7-NMeFOSE	*181*		ng/L	196.8		92.1	10-130			
Surrogate: D9-NEtFOSE	*173*		ng/L	196.8		87.7	10-130			
Surrogate: 13C3-HFPO-DA	*88.5*		ng/L	78.70		112	40-130			
MRL Check (B394096-MRL1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	11.9	6.3	ng/L	12.59		94.4	70-140			
Perfluoropentanoic acid (PFPeA)	6.01	3.1	ng/L	6.295		95.5	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394096 - EPA 1633										
MRL Check (B394096-MRL1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Perfluorohexanoic acid (PFHxA)	2.99	1.6	ng/L	3.148		94.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.86	1.6	ng/L	3.148		90.7	70-150			
Perfluorooctanoic acid (PFOA)	2.91	1.6	ng/L	3.148		92.5	70-150			
Perfluorononanoic acid (PFNA)	2.93	1.6	ng/L	3.148		93.0	70-150			
Perfluorodecanoic acid (PFDA)	2.72	1.6	ng/L	3.148		86.3	70-140			
Perfluoroundecanoic acid (PFUnA)	2.80	1.6	ng/L	3.148		89.0	70-145			
Perfluorododecanoic acid (PFDoA)	3.22	1.6	ng/L	3.148		102	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.95	1.6	ng/L	3.148		93.6	65-140			
Perfluorotetradecanoic acid (PFTeDA)	3.26	1.6	ng/L	3.148		103	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.82	1.6	ng/L	2.795		101	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.93	1.6	ng/L	2.959		99.0	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.70	1.6	ng/L	2.871		94.0	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	3.07	1.6	ng/L	2.997		102	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.81	1.6	ng/L	2.921		96.1	55-150			
Perfluorononanesulfonic acid (PFNS)	2.91	1.6	ng/L	3.022		96.3	65-145			
Perfluorodecanesulfonic acid (PFDS)	3.35	1.6	ng/L	3.034		110	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.91	1.6	ng/L	3.047		95.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.3	6.3	ng/L	11.80		95.5	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.3	6.3	ng/L	11.97		94.7	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	13.1	6.3	ng/L	12.09		109	60-150			
Perfluorooctanesulfonamide (PFOSA)	3.18	1.6	ng/L	3.148		101	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.12	1.6	ng/L	3.148		99.2	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.87	1.6	ng/L	3.148		91.2	65-145			
N-MeFOSAA (NMeFOSAA)	2.80	1.6	ng/L	3.148		89.1	50-140			
N-EtFOSAA (NEtFOSAA)	2.86	1.6	ng/L	3.148		90.8	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	29.4	16	ng/L	31.48		93.5	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	30.5	16	ng/L	31.48		96.9	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.1	6.3	ng/L	12.59		95.8	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.9	6.3	ng/L	11.90		91.8	65-145			
9Cl-PF3ONS (F53B Minor)	12.6	6.3	ng/L	11.75		107	70-155			
11Cl-PF3OUdS (F53B Major)	12.1	6.3	ng/L	11.76		103	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	14.9	7.9	ng/L	15.74		94.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	73.0	39	ng/L	78.69		92.8	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	68.5	39	ng/L	78.69		87.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.35	3.1	ng/L	5.615		95.3	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.92	3.1	ng/L	6.295		94.0	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.25	3.1	ng/L	6.295		99.3	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	7.51	3.1	ng/L	6.295		119	50-150			
Surrogate: 13C4-PFBA	*71.5*		ng/L	78.69		90.9	5-130			
Surrogate: 13C5-PFPeA	*35.0*		ng/L	39.35		89.0	40-130			
Surrogate: 13C5-PFHxA	*17.5*		ng/L	19.67		89.0	40-130			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394096 - EPA 1633										
MRL Check (B394096-MRL1)				Prepared: 12/12/24 Analyzed: 12/17/24						
Surrogate: 13C4-PFHpA	*18.4*		ng/L	19.67		93.6	40-130			
Surrogate: 13C8-PFOA	*18.4*		ng/L	19.67		93.8	40-130			
Surrogate: 13C9-PFNA	*9.00*		ng/L	9.837		91.5	40-130			
Surrogate: 13C6-PFDA	*9.90*		ng/L	9.837		101	40-130			
Surrogate: 13C7-PFUnA	*9.25*		ng/L	9.837		94.0	30-130			
Surrogate: 13C2-PFDoA	*8.29*		ng/L	9.837		84.2	10-130			
Surrogate: 13C2-PFTeDA	*7.83*		ng/L	9.837		79.6	10-130			
Surrogate: 13C3-PFBS	*17.1*		ng/L	19.67		87.0	40-135			
Surrogate: 13C3-PFHxS	*16.5*		ng/L	19.67		84.0	40-130			
Surrogate: 13C8-PFOS	*17.4*		ng/L	19.67		88.4	40-130			
Surrogate: 13C2-4:2FTS	*38.7*		ng/L	39.35		98.4	40-200			
Surrogate: 13C2-6:2FTS	*38.1*		ng/L	39.35		96.9	40-200			
Surrogate: 13C2-8:2FTS	*34.7*		ng/L	39.35		88.3	40-300			
Surrogate: 13C8-PFOSA	*17.4*		ng/L	19.67		88.2	40-130			
Surrogate: D3-NMeFOSA	*15.6*		ng/L	19.67		79.2	10-130			
Surrogate: D5-NEtFOSA	*15.6*		ng/L	19.67		79.2	10-130			
Surrogate: D3-NMeFOSAA	*38.2*		ng/L	39.35		97.2	40-170			
Surrogate: D5-NEtFOSAA	*37.8*		ng/L	39.35		96.1	25-135			
Surrogate: D7-NMeFOSE	*174*		ng/L	196.7		88.2	10-130			
Surrogate: D9-NEtFOSE	*173*		ng/L	196.7		87.7	10-130			
Surrogate: 13C3-HFPO-DA	*79.4*		ng/L	78.69		101	40-130			
Batch B394803 - EPA 1633										
Blank (B394803-BLK1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	ND	6.2	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394803 - EPA 1633										
Blank (B394803-BLK1)				Prepared: 12/19/24 Analyzed: 12/20/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*75.8*		ng/L	77.83		97.4	5-130			
Surrogate: 13C5-PFPeA	*39.5*		ng/L	38.92		102	40-130			
Surrogate: 13C5-PFHxA	*19.1*		ng/L	19.46		98.4	40-130			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	19.46		96.6	40-130			
Surrogate: 13C8-PFOA	*17.3*		ng/L	19.46		88.8	40-130			
Surrogate: 13C9-PFNA	*9.81*		ng/L	9.729		101	40-130			
Surrogate: 13C6-PFDA	*8.88*		ng/L	9.729		91.3	40-130			
Surrogate: 13C7-PFUnA	*8.73*		ng/L	9.729		89.7	30-130			
Surrogate: 13C2-PFDoA	*8.07*		ng/L	9.729		83.0	10-130			
Surrogate: 13C2-PFTeDA	*6.90*		ng/L	9.729		70.9	10-130			
Surrogate: 13C3-PFBS	*22.8*		ng/L	19.46		117	40-135			
Surrogate: 13C3-PFHxS	*22.5*		ng/L	19.46		116	40-130			
Surrogate: 13C8-PFOS	*18.6*		ng/L	19.46		95.5	40-130			
Surrogate: 13C2-4:2FTS	*45.7*		ng/L	38.92		117	40-200			
Surrogate: 13C2-6:2FTS	*53.7*		ng/L	38.92		138	40-200			
Surrogate: 13C2-8:2FTS	*43.8*		ng/L	38.92		113	40-300			
Surrogate: 13C8-PFOSA	*16.5*		ng/L	19.46		84.9	40-130			
Surrogate: D3-NMeFOSA	*13.1*		ng/L	19.46		67.3	10-130			
Surrogate: D5-NEtFOSA	*12.3*		ng/L	19.46		63.3	10-130			
Surrogate: D3-NMeFOSAA	*39.2*		ng/L	38.92		101	40-170			
Surrogate: D5-NEtFOSAA	*36.0*		ng/L	38.92		92.5	25-135			
Surrogate: D7-NMeFOSE	*150*		ng/L	194.6		77.0	10-130			
Surrogate: D9-NEtFOSE	*151*		ng/L	194.6		77.8	10-130			
Surrogate: 13C3-HFPO-DA	*81.8*		ng/L	77.83		105	40-130			
LCS (B394803-BS1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	76.7	6.3	ng/L	79.16		96.9	70-140			
Perfluoropentanoic acid (PFPeA)	36.5	3.2	ng/L	39.58		92.1	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394803 - EPA 1633										
LCS (B394803-BS1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorohexanoic acid (PFHxA)	19.0	1.6	ng/L	19.79		95.9	70-145			
Perfluoroheptanoic acid (PFHpA)	20.1	1.6	ng/L	19.79		101	70-150			
Perfluorooctanoic acid (PFOA)	20.5	1.6	ng/L	19.79		103	70-150			
Perfluorononanoic acid (PFNA)	20.1	1.6	ng/L	19.79		101	70-150			
Perfluorodecanoic acid (PFDA)	19.2	1.6	ng/L	19.79		97.0	70-140			
Perfluoroundecanoic acid (PFUnA)	17.4	1.6	ng/L	19.79		87.9	70-145			
Perfluorododecanoic acid (PFDoA)	20.7	1.6	ng/L	19.79		104	70-140			
Perfluorotridecanoic acid (PFTrDA)	16.8	1.6	ng/L	19.79		84.8	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.2	1.6	ng/L	19.79		102	60-140			
Perfluorobutanesulfonic acid (PFBS)	18.4	1.6	ng/L	17.57		105	60-145			
Perfluoropentanesulfonic acid (PFPeS)	18.7	1.6	ng/L	18.60		101	65-140			
Perfluorohexanesulfonic acid (PFHxS)	15.0	1.6	ng/L	18.05		83.0	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	21.3	1.6	ng/L	18.84		113	70-150			
Perfluorooctanesulfonic acid (PFOS)	19.3	1.6	ng/L	18.36		105	55-150			
Perfluorononanesulfonic acid (PFNS)	21.1	1.6	ng/L	19.00		111	65-145			
Perfluorodecanesulfonic acid (PFDS)	19.0	1.6	ng/L	19.08		99.4	60-145			
Perfluorododecanesulfonic acid (PFDoS)	19.0	1.6	ng/L	19.16		99.3	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	68.1	6.3	ng/L	74.17		91.8	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	61.3	6.3	ng/L	75.28		81.5	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	73.4	6.3	ng/L	75.99		96.6	60-150			
Perfluorooctanesulfonamide (PFOSA)	21.1	1.6	ng/L	19.79		107	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.3	1.6	ng/L	19.79		102	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	20.8	1.6	ng/L	19.79		105	65-145			
N-MeFOSAA (NMeFOSAA)	17.9	1.6	ng/L	19.79		90.3	50-140			
N-EtFOSAA (NEtFOSAA)	19.0	1.6	ng/L	19.79		95.8	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	200	16	ng/L	197.9		101	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	205	16	ng/L	197.9		103	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	84.9	6.3	ng/L	79.16		107	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	72.9	6.3	ng/L	74.80		97.5	65-145			
9Cl-PF3ONS (F53B Minor)	78.2	6.3	ng/L	73.85		106	70-155			
11Cl-PF3OUdS (F53B Major)	71.2	6.3	ng/L	73.93		96.3	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	81.0	7.9	ng/L	98.95		81.8	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	478	40	ng/L	494.7		96.5	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	484	40	ng/L	494.7		97.9	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	36.9	3.2	ng/L	35.30		104	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.2	3.2	ng/L	39.58		101	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.1	3.2	ng/L	39.58		101	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	37.8	3.2	ng/L	39.58		95.6	50-150			
Surrogate: 13C4-PFBA	*75.2*		ng/L	79.16		95.0	5-130			
Surrogate: 13C5-PFPeA	*38.3*		ng/L	39.58		96.7	40-130			
Surrogate: 13C5-PFHxA	*18.1*		ng/L	19.79		91.7	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394803 - EPA 1633										
LCS (B394803-BS1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Surrogate: 13C4-PFHpA	*18.1*		ng/L	19.79		91.7	40-130			
Surrogate: 13C8-PFOA	*18.9*		ng/L	19.79		95.6	40-130			
Surrogate: 13C9-PFNA	*9.37*		ng/L	9.895		94.7	40-130			
Surrogate: 13C6-PFDA	*9.97*		ng/L	9.895		101	40-130			
Surrogate: 13C7-PFUnA	*8.96*		ng/L	9.895		90.6	30-130			
Surrogate: 13C2-PFDoA	*8.00*		ng/L	9.895		80.9	10-130			
Surrogate: 13C2-PFTeDA	*6.82*		ng/L	9.895		69.0	10-130			
Surrogate: 13C3-PFBS	*18.6*		ng/L	19.79		94.0	40-135			
Surrogate: 13C3-PFHxS	*19.2*		ng/L	19.79		97.2	40-130			
Surrogate: 13C8-PFOS	*16.8*		ng/L	19.79		84.9	40-130			
Surrogate: 13C2-4:2FTS	*35.7*		ng/L	39.58		90.1	40-200			
Surrogate: 13C2-6:2FTS	*46.1*		ng/L	39.58		116	40-200			
Surrogate: 13C2-8:2FTS	*35.0*		ng/L	39.58		88.5	40-300			
Surrogate: 13C8-PFOSA	*16.4*		ng/L	19.79		82.8	40-130			
Surrogate: D3-NMeFOSA	*13.2*		ng/L	19.79		66.6	10-130			
Surrogate: D5-NEtFOSA	*13.1*		ng/L	19.79		65.9	10-130			
Surrogate: D3-NMeFOSAA	*36.9*		ng/L	39.58		93.1	40-170			
Surrogate: D5-NEtFOSAA	*30.7*		ng/L	39.58		77.6	25-135			
Surrogate: D7-NMeFOSE	*161*		ng/L	197.9		81.4	10-130			
Surrogate: D9-NEtFOSE	*156*		ng/L	197.9		78.9	10-130			
Surrogate: 13C3-HFPO-DA	*77.1*		ng/L	79.16		97.3	40-130			
MRL Check (B394803-MRL1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	11.2	6.2	ng/L	12.46		90.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.43	3.1	ng/L	6.229		87.1	65-135			
Perfluorohexanoic acid (PFHxA)	2.69	1.6	ng/L	3.114		86.3	70-145			
Perfluoroheptanoic acid (PFHpA)	2.90	1.6	ng/L	3.114		93.3	70-150			
Perfluorooctanoic acid (PFOA)	2.82	1.6	ng/L	3.114		90.6	70-150			
Perfluorononanoic acid (PFNA)	3.22	1.6	ng/L	3.114		104	70-150			
Perfluorodecanoic acid (PFDA)	2.20	1.6	ng/L	3.114		70.6	70-140			
Perfluoroundecanoic acid (PFUnA)	2.66	1.6	ng/L	3.114		85.3	70-145			
Perfluorododecanoic acid (PFDoA)	3.04	1.6	ng/L	3.114		97.7	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.38	1.6	ng/L	3.114		76.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	3.00	1.6	ng/L	3.114		96.5	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.10	1.6	ng/L	2.766		76.0	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.95	1.6	ng/L	2.927		101	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.61	1.6	ng/L	2.840		91.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.39	1.6	ng/L	2.965		80.4	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.84	1.6	ng/L	2.890		98.2	55-150			
Perfluorononanesulfonic acid (PFNS)	2.93	1.6	ng/L	2.990		98.1	65-145			
Perfluorodecanesulfonic acid (PFDS)	3.04	1.6	ng/L	3.002		101	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.99	1.6	ng/L	3.015		99.1	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.6	6.2	ng/L	11.67		91.1	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	12.9	6.2	ng/L	11.85		109	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.65	6.2	ng/L	11.96		72.3	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.79	1.6	ng/L	3.114		89.5	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.89	1.6	ng/L	3.114		92.9	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.88	1.6	ng/L	3.114		92.5	65-145			
N-MeFOSAA (NMeFOSAA)	2.60	1.6	ng/L	3.114		83.6	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394803 - EPA 1633										
MRL Check (B394803-MRL1)				Prepared: 12/19/24 Analyzed: 12/20/24						
N-EtFOSAA (NEtFOSAA)	2.83	1.6	ng/L	3.114		91.0	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	28.9	16	ng/L	31.14		92.8	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	28.8	16	ng/L	31.14		92.4	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.7	6.2	ng/L	12.46		93.6	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.2	6.2	ng/L	11.77		95.2	65-145			
9Cl-PF3ONS (F53B Minor)	11.9	6.2	ng/L	11.62		103	70-155			
11Cl-PF3OUdS (F53B Major)	11.4	6.2	ng/L	11.64		97.6	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	11.2	7.8	ng/L	15.57		71.9	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	62.2	39	ng/L	77.86		79.9	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	74.2	39	ng/L	77.86		95.3	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.26	3.1	ng/L	5.556		94.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.33	3.1	ng/L	6.229		85.5	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.71	3.1	ng/L	6.229		91.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.07	3.1	ng/L	6.229		97.4	50-150			
Surrogate: 13C4-PFBA	*75.3*		ng/L	77.86		96.7	5-130			
Surrogate: 13C5-PFPeA	*39.1*		ng/L	38.93		100	40-130			
Surrogate: 13C5-PFHxA	*18.9*		ng/L	19.46		96.9	40-130			
Surrogate: 13C4-PFHpA	*18.3*		ng/L	19.46		94.2	40-130			
Surrogate: 13C8-PFOA	*20.2*		ng/L	19.46		104	40-130			
Surrogate: 13C9-PFNA	*8.27*		ng/L	9.732		85.0	40-130			
Surrogate: 13C6-PFDA	*9.51*		ng/L	9.732		97.8	40-130			
Surrogate: 13C7-PFUnA	*8.47*		ng/L	9.732		87.0	30-130			
Surrogate: 13C2-PFDoA	*7.85*		ng/L	9.732		80.6	10-130			
Surrogate: 13C2-PFTeDA	*5.64*		ng/L	9.732		58.0	10-130			
Surrogate: 13C3-PFBS	*19.1*		ng/L	19.46		98.2	40-135			
Surrogate: 13C3-PFHxS	*17.6*		ng/L	19.46		90.7	40-130			
Surrogate: 13C8-PFOS	*16.5*		ng/L	19.46		84.6	40-130			
Surrogate: 13C2-4:2FTS	*36.6*		ng/L	38.93		93.9	40-200			
Surrogate: 13C2-6:2FTS	*37.5*		ng/L	38.93		96.3	40-200			
Surrogate: 13C2-8:2FTS	*38.7*		ng/L	38.93		99.4	40-300			
Surrogate: 13C8-PFOSA	*17.1*		ng/L	19.46		87.7	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.46		74.3	10-130			
Surrogate: D5-NEtFOSA	*14.1*		ng/L	19.46		72.5	10-130			
Surrogate: D3-NMeFOSAA	*37.9*		ng/L	38.93		97.3	40-170			
Surrogate: D5-NEtFOSAA	*35.3*		ng/L	38.93		90.7	25-135			
Surrogate: D7-NMeFOSE	*160*		ng/L	194.6		82.2	10-130			
Surrogate: D9-NEtFOSE	*157*		ng/L	194.6		80.6	10-130			
Surrogate: 13C3-HFPO-DA	*77.1*		ng/L	77.86		99.1	40-130			
Batch B394931 - EPA 1633										
Blank (B394931-BLK1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394931 - EPA 1633										
Blank (B394931-BLK1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*50.3*		ng/L	78.23		64.4	5-130			
Surrogate: 13C5-PFPeA	*25.9*		ng/L	39.11		66.3	40-130			
Surrogate: 13C5-PFHxA	*12.4*		ng/L	19.56		63.5	40-130			
Surrogate: 13C4-PFHpA	*11.4*		ng/L	19.56		58.2	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394931 - EPA 1633										
Blank (B394931-BLK1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Surrogate: 13C8-PFOA	*12.7*		ng/L	19.56		64.7	40-130			
Surrogate: 13C9-PFNA	*5.44*		ng/L	9.779		55.7	40-130			
Surrogate: 13C6-PFDA	*6.17*		ng/L	9.779		63.1	40-130			
Surrogate: 13C7-PFUnA	*5.51*		ng/L	9.779		56.4	30-130			
Surrogate: 13C2-PFDoA	*5.12*		ng/L	9.779		52.3	10-130			
Surrogate: 13C2-PFTeDA	*4.26*		ng/L	9.779		43.6	10-130			
Surrogate: 13C3-PFBS	*12.4*		ng/L	19.56		63.3	40-135			
Surrogate: 13C3-PFHxS	*13.2*		ng/L	19.56		67.2	40-130			
Surrogate: 13C8-PFOS	*12.3*		ng/L	19.56		62.9	40-130			
Surrogate: 13C2-4:2FTS	*28.1*		ng/L	39.11		71.8	40-200			
Surrogate: 13C2-6:2FTS	*29.3*		ng/L	39.11		74.8	40-200			
Surrogate: 13C2-8:2FTS	*26.1*		ng/L	39.11		66.8	40-300			
Surrogate: 13C8-PFOSA	*10.8*		ng/L	19.56		55.1	40-130			
Surrogate: D3-NMeFOSA	*9.27*		ng/L	19.56		47.4	10-130			
Surrogate: D5-NEtFOSA	*9.09*		ng/L	19.56		46.5	10-130			
Surrogate: D3-NMeFOSAA	*23.1*		ng/L	39.11		58.9	40-170			
Surrogate: D5-NEtFOSAA	*18.8*		ng/L	39.11		48.2	25-135			
Surrogate: D7-NMeFOSE	*107*		ng/L	195.6		54.7	10-130			
Surrogate: D9-NEtFOSE	*105*		ng/L	195.6		53.7	10-130			
Surrogate: 13C3-HFPO-DA	*54.0*		ng/L	78.23		69.0	40-130			
LCS (B394931-BS1)				Prepared: 12/19/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	76.8	6.3	ng/L	78.23		98.2	70-140			
Perfluoropentanoic acid (PFPeA)	38.9	3.1	ng/L	39.12		99.6	65-135			
Perfluorohexanoic acid (PFHxA)	18.3	1.6	ng/L	19.56		93.7	70-145			
Perfluoroheptanoic acid (PFHpA)	18.4	1.6	ng/L	19.56		94.0	70-150			
Perfluorooctanoic acid (PFOA)	20.3	1.6	ng/L	19.56		104	70-150			
Perfluorononanoic acid (PFNA)	19.7	1.6	ng/L	19.56		101	70-150			
Perfluorodecanoic acid (PFDA)	18.9	1.6	ng/L	19.56		96.5	70-140			
Perfluoroundecanoic acid (PFUnA)	15.5	1.6	ng/L	19.56		79.4	70-145			
Perfluorododecanoic acid (PFDoA)	20.0	1.6	ng/L	19.56		102	70-140			
Perfluorotridecanoic acid (PFTrDA)	14.4	1.6	ng/L	19.56		73.8	65-140			
Perfluorotetradecanoic acid (PFTeDA)	21.0	1.6	ng/L	19.56		107	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.1	1.6	ng/L	17.37		98.4	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.6	1.6	ng/L	18.38		95.9	65-140			
Perfluorohexanesulfonic acid (PFHxS)	18.1	1.6	ng/L	17.84		101	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	18.9	1.6	ng/L	18.62		101	70-150			
Perfluorooctanesulfonic acid (PFOS)	19.3	1.6	ng/L	18.15		107	55-150			
Perfluorononanesulfonic acid (PFNS)	18.5	1.6	ng/L	18.78		98.8	65-145			
Perfluorodecanesulfonic acid (PFDS)	16.7	1.6	ng/L	18.85		88.4	60-145			
Perfluorododecanesulfonic acid (PFDoS)	18.2	1.6	ng/L	18.93		96.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	65.5	6.3	ng/L	73.30		89.4	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	59.0	6.3	ng/L	74.40		79.3	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	60.7	6.3	ng/L	75.10		80.8	60-150			
Perfluorooctanesulfonamide (PFOSA)	19.3	1.6	ng/L	19.56		98.6	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	17.6	1.6	ng/L	19.56		90.1	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	19.2	1.6	ng/L	19.56		97.9	65-145			
N-MeFOSAA (NMeFOSAA)	15.6	1.6	ng/L	19.56		79.7	50-140			
N-EtFOSAA (NEtFOSAA)	17.2	1.6	ng/L	19.56		87.8	70-145			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394931 - EPA 1633										
LCS (B394931-BS1)				Prepared: 12/19/24 Analyzed: 12/20/24						
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	201	16	ng/L	195.6		103	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	198	16	ng/L	195.6		101	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	81.4	6.3	ng/L	78.23		104	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	70.9	6.3	ng/L	73.93		95.9	65-145			
9Cl-PF3ONS (F53B Minor)	72.4	6.3	ng/L	72.99		99.2	70-155			
11Cl-PF3OUdS (F53B Major)	61.6	6.3	ng/L	73.07		84.2	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	84.4	7.8	ng/L	97.79		86.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	471	39	ng/L	489.0		96.2	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	450	39	ng/L	489.0		92.1	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	37.8	3.1	ng/L	34.89		108	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	41.6	3.1	ng/L	39.12		106	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.2	3.1	ng/L	39.12		110	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.4	3.1	ng/L	39.12		114	50-150			
Surrogate: 13C4-PFBA	*53.2*		ng/L	78.23		68.0	5-130			
Surrogate: 13C5-PFPeA	*26.1*		ng/L	39.12		66.6	40-130			
Surrogate: 13C5-PFHxA	*12.8*		ng/L	19.56		65.6	40-130			
Surrogate: 13C4-PFHpA	*13.4*		ng/L	19.56		68.7	40-130			
Surrogate: 13C8-PFOA	*12.1*		ng/L	19.56		61.9	40-130			
Surrogate: 13C9-PFNA	*6.51*		ng/L	9.779		66.6	40-130			
Surrogate: 13C6-PFDA	*6.50*		ng/L	9.779		66.4	40-130			
Surrogate: 13C7-PFUnA	*5.75*		ng/L	9.779		58.8	30-130			
Surrogate: 13C2-PFDoA	*5.39*		ng/L	9.779		55.2	10-130			
Surrogate: 13C2-PFTeDA	*3.93*		ng/L	9.779		40.2	10-130			
Surrogate: 13C3-PFBS	*14.2*		ng/L	19.56		72.5	40-135			
Surrogate: 13C3-PFHxS	*13.9*		ng/L	19.56		71.3	40-130			
Surrogate: 13C8-PFOS	*12.1*		ng/L	19.56		62.1	40-130			
Surrogate: 13C2-4:2FTS	*27.1*		ng/L	39.12		69.3	40-200			
Surrogate: 13C2-6:2FTS	*29.1*		ng/L	39.12		74.4	40-200			
Surrogate: 13C2-8:2FTS	*27.1*		ng/L	39.12		69.3	40-300			
Surrogate: 13C8-PFOSA	*11.3*		ng/L	19.56		58.0	40-130			
Surrogate: D3-NMeFOSA	*10.2*		ng/L	19.56		52.2	10-130			
Surrogate: D5-NEtFOSA	*9.40*		ng/L	19.56		48.1	10-130			
Surrogate: D3-NMeFOSAA	*22.1*		ng/L	39.12		56.4	40-170			
Surrogate: D5-NEtFOSAA	*17.5*		ng/L	39.12		44.8	25-135			
Surrogate: D7-NMeFOSE	*107*		ng/L	195.6		54.9	10-130			
Surrogate: D9-NEtFOSE	*108*		ng/L	195.6		55.4	10-130			
Surrogate: 13C3-HFPO-DA	*55.4*		ng/L	78.23		70.8	40-130			
MRL Check (B394931-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorobutanoic acid (PFBA)	10.9	6.3	ng/L	12.59		86.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.30	3.1	ng/L	6.294		84.3	65-135			
Perfluorohexanoic acid (PFHxA)	2.77	1.6	ng/L	3.147		87.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.64	1.6	ng/L	3.147		83.9	70-150			
Perfluorooctanoic acid (PFOA)	2.85	1.6	ng/L	3.147		90.5	70-150			
Perfluorononanoic acid (PFNA)	2.46	1.6	ng/L	3.147		78.2	70-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394931 - EPA 1633										
MRL Check (B394931-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Perfluorodecanoic acid (PFDA)	2.80	1.6	ng/L	3.147		88.9	70-140			
Perfluoroundecanoic acid (PFUnA)	2.83	1.6	ng/L	3.147		90.1	70-145			
Perfluorododecanoic acid (PFDoA)	2.95	1.6	ng/L	3.147		93.7	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.53	1.6	ng/L	3.147		80.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.62	1.6	ng/L	3.147		83.3	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.42	1.6	ng/L	2.794		86.7	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.47	1.6	ng/L	2.958		83.6	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.43	1.6	ng/L	2.870		84.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	3.00	1.6	ng/L	2.996		100	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.58	1.6	ng/L	2.920		88.4	55-150			
Perfluorononanesulfonic acid (PFNS)	2.62	1.6	ng/L	3.021		86.8	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.39	1.6	ng/L	3.033		78.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.23	1.6	ng/L	3.046		73.3	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.3	6.3	ng/L	11.79		87.6	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.9	6.3	ng/L	11.97		91.2	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.0	6.3	ng/L	12.08		91.1	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.75	1.6	ng/L	3.147		87.5	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.16	1.6	ng/L	3.147		100	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.84	1.6	ng/L	3.147		90.2	65-145			
N-MeFOSAA (NMeFOSAA)	2.79	1.6	ng/L	3.147		88.6	50-140			
N-EtFOSAA (NEtFOSAA)	2.45	1.6	ng/L	3.147		77.8	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	28.1	16	ng/L	31.47		89.3	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	27.6	16	ng/L	31.47		87.8	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.9	6.3	ng/L	12.59		94.3	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.5	6.3	ng/L	11.89		88.0	65-145			
9Cl-PF3ONS (F53B Minor)	11.1	6.3	ng/L	11.74		94.4	70-155			
11Cl-PF3OUdS (F53B Major)	9.93	6.3	ng/L	11.87		83.7	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	13.1	7.9	ng/L	15.73		83.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	66.2	39	ng/L	78.67		84.2	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	61.7	39	ng/L	78.67		78.4	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.09	3.1	ng/L	5.614		90.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.31	3.1	ng/L	6.294		84.4	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.80	3.1	ng/L	6.294		92.1	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.49	3.1	ng/L	6.294		87.3	50-150			
Surrogate: 13C4-PFBA	*65.8*		ng/L	78.67		83.7	5-130			
Surrogate: 13C5-PFPeA	*31.8*		ng/L	39.33		80.8	40-130			
Surrogate: 13C5-PFHxA	*16.1*		ng/L	19.67		82.1	40-130			
Surrogate: 13C4-PFHpA	*16.3*		ng/L	19.67		82.8	40-130			
Surrogate: 13C8-PFOA	*16.1*		ng/L	19.67		81.6	40-130			
Surrogate: 13C9-PFNA	*8.27*		ng/L	9.834		84.1	40-130			
Surrogate: 13C6-PFDA	*7.84*		ng/L	9.834		79.7	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394931 - EPA 1633										
MRL Check (B394931-MRL1)				Prepared: 12/19/24 Analyzed: 12/23/24						
Surrogate: 13C7-PFUnA	*7.47*		ng/L	9.834		75.9	30-130			
Surrogate: 13C2-PFDoA	*6.78*		ng/L	9.834		68.9	10-130			
Surrogate: 13C2-PFTeDA	*6.25*		ng/L	9.834		63.6	10-130			
Surrogate: 13C3-PFBS	*15.9*		ng/L	19.67		81.0	40-135			
Surrogate: 13C3-PFHxS	*15.6*		ng/L	19.67		79.5	40-130			
Surrogate: 13C8-PFOS	*15.3*		ng/L	19.67		77.8	40-130			
Surrogate: 13C2-4:2FTS	*34.7*		ng/L	39.33		88.2	40-200			
Surrogate: 13C2-6:2FTS	*37.0*		ng/L	39.33		94.0	40-200			
Surrogate: 13C2-8:2FTS	*28.3*		ng/L	39.33		72.0	40-300			
Surrogate: 13C8-PFOSA	*13.9*		ng/L	19.67		70.6	40-130			
Surrogate: D3-NMeFOSA	*11.8*		ng/L	19.67		60.0	10-130			
Surrogate: D5-NEtFOSA	*12.0*		ng/L	19.67		60.8	10-130			
Surrogate: D3-NMeFOSAA	*27.2*		ng/L	39.33		69.0	40-170			
Surrogate: D5-NEtFOSAA	*26.4*		ng/L	39.33		67.1	25-135			
Surrogate: D7-NMeFOSE	*136*		ng/L	196.7		69.3	10-130			
Surrogate: D9-NEtFOSE	*132*		ng/L	196.7		67.2	10-130			
Surrogate: 13C3-HFPO-DA	*66.0*		ng/L	78.67		83.9	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
D-01	Sample extracted/prepared at a dilution due to sample matrix.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.
S-29	Extracted Internal Standard is outside of control limits.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires

24L0503

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

Pace Phone: 413-525-2332

39 Spruce Street
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Page 1 of 1

Michael Baker Intl

Address: 100 Airside Dr
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 00157747
Invoice Recipient: MBI
Sampled By: Brad Mikula / A. Lacy

7-Day ☐ 10-Day ☐ Field Filtered ○
PFAS 10 Day (std) ☒ Due Date: Lab to Filter ○

1-Day ☐ 3-Day ☐ Field Filtered ○
2-Day ☐ 4-Day ☐ Lab to Filter ○

Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client sample ID / Description	Collection Date/Time	Sampling Date/Time	Grab/Comp	*Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
1	OB-7-50	12/4/24	1415	G	GW				3			X	X
2	GM-15S		1640										
3	GM-15D		1700										
4	OB-7-100		1755										
5	BMW-4		1820										
6	BMW-3	12/5/24	1300										
7	BMW-3DUP		1305										
8	BMW-2		1235										

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 12/5/24 1320	Client Comments:
Received by: (signature)	Date/Time: 12-5-24 15:20	
Relinquished by: (signature)	Date/Time: 12-5-24 16:30	
Received by: (signature) BSC	Date/Time: 12-5-24 1630	
Relinquished by: (signature)	Date/Time: 12-5-24 1730	
Received by: (signature)	Date/Time: 12/6 8:00	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time: 12/6/24 1020	

MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

MELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☑ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Mitchell BAKER Int'l

Project Scalgertown AAS

MCP/RCP Required NA

Deliverable Package Requirement NA

Location Scalgertown, PA

PWSID# (When Applicable) MA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time RVan 12/6/24 1020

Back-Sheet By / Date / Time LA 12/9/24 1457

Temperature Method Gun #6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp ✓ < 6° C Actual Temperature 0.6

Rush Samples: Yes / (No) Notify ☐

Short Hold: Yes / (No) Notify ☐

Notes regarding Samples/COC outside of SOP:

Extra Sample received (OB-6-50)

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample																				
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																			
8oz Amb/Clear																				
4oz Amb/Clear																				
2oz Amb/Clear																				
Unpreserved	Ambers	1 Liter																		
HCL																				
Sulfuric																				
Sulfuric		250mL																		
Phosphoric																				
HCl																				
Unpreserved		100mL																		
Unpreserved	Plastics	1 Liter																		
Sulfuric																				
Unpreserved		500mL										2								2
Sulfuric																				
Unpreserved		250mL																		
Trizma																				
Sulfuric																				
Nitric																				
NaOH																				
Ammonium Acetate																				
NaOH/Zinc																				
Unpreserved	VOA Vials																			
HCl																				
MeOH																				
D.I. Water																				
BiSulfate																				
Col/Bact																				
125 plastic	Other/Fill in											—								—

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 23, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24L0567

Enclosed are results of analyses for samples as received by the laboratory on December 7, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 12/23/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24L0567

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GM-13D	24L0567-01	Ground Water		EPA 1633	
GM-13S	24L0567-02	Ground Water		EPA 1633	
W7D	24L0567-03	Ground Water		EPA 1633	
W7S	24L0567-04	Ground Water		EPA 1633	
GM-23S	24L0567-05	Ground Water		EPA 1633	
EB-01-1224	24L0567-06	Equipment Blank Water		EPA 1633	
IDW-AQ-1224	24L0567-07	Ground Water		EPA 1633	
IDW-SOIL-1224	24L0567-08	Soil		EPA 1633	
				SM 2540G	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA 1633

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

D7-NMeFOSE
24L0567-08[IDW-SOIL-1224], B394241-BLK1, S115846-CCB2

D9-NEtFOSE
24L0567-08[IDW-SOIL-1224], B394241-BLK1, S115846-CCB2

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
24L0567-08[IDW-SOIL-1224], B394241-BLK1, S115846-CCB2

N-methylperfluorooctanesulfonamidoethanol(NMeF
24L0567-08[IDW-SOIL-1224], B394241-BLK1, S115846-CCB2

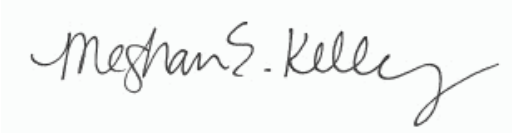
PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
24L0567-07[IDW-AQ-1224]

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-13D | Sampled: 12/6/2024 10:25

Sample ID: 24L0567-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorooctanoic acid (PFOA)	2.1	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-13D | Sampled: 12/6/2024 10:25

Sample ID: 24L0567-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 18:57	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	69.6	5-130		12/20/24 18:57
13C5-PFPeA	98.0	40-130		12/20/24 18:57
13C5-PFHxA	98.8	40-130		12/20/24 18:57
13C4-PFHpA	98.7	40-130		12/20/24 18:57
13C8-PFOA	95.0	40-130		12/20/24 18:57
13C9-PFNA	94.4	40-130		12/20/24 18:57
13C6-PFDA	93.9	40-130		12/20/24 18:57
13C7-PFUnA	92.9	30-130		12/20/24 18:57
13C2-PFDoA	84.0	10-130		12/20/24 18:57
13C2-PFTeDA	80.1	10-130		12/20/24 18:57
13C3-PFBS	96.8	40-135		12/20/24 18:57
13C3-PFHxS	97.2	40-130		12/20/24 18:57
13C8-PFOS	91.4	40-130		12/20/24 18:57
13C2-4:2FTS	94.0	40-200		12/20/24 18:57
13C2-6:2FTS	109	40-200		12/20/24 18:57
13C2-8:2FTS	87.7	40-300		12/20/24 18:57
13C8-PFOSA	97.5	40-130		12/20/24 18:57
D3-NMeFOSA	69.5	10-130		12/20/24 18:57
D5-NEtFOSA	60.5	10-130		12/20/24 18:57
D3-NMeFOSAA	88.6	40-170		12/20/24 18:57
D5-NEtFOSAA	82.8	25-135		12/20/24 18:57
D7-NMeFOSE	85.3	10-130		12/20/24 18:57
D9-NEtFOSE	84.0	10-130		12/20/24 18:57
13C3-HFPO-DA	103	40-130		12/20/24 18:57

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-13S | Sampled: 12/6/2024 10:35

Sample ID: 24L0567-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorohexanoic acid (PFHxA)	1.7	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorooctanoic acid (PFOA)	2.8	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorooctanesulfonic acid (PFOS)	4.1	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-13S | Sampled: 12/6/2024 10:35

Sample ID: 24L0567-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:07	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.3	5-130		12/20/24 19:07
13C5-PFPeA	94.8	40-130		12/20/24 19:07
13C5-PFHxA	93.2	40-130		12/20/24 19:07
13C4-PFHpA	96.0	40-130		12/20/24 19:07
13C8-PFOA	97.8	40-130		12/20/24 19:07
13C9-PFNA	96.1	40-130		12/20/24 19:07
13C6-PFDA	89.2	40-130		12/20/24 19:07
13C7-PFUnA	75.7	30-130		12/20/24 19:07
13C2-PFDoA	65.8	10-130		12/20/24 19:07
13C2-PFTeDA	60.4	10-130		12/20/24 19:07
13C3-PFBS	96.0	40-135		12/20/24 19:07
13C3-PFHxS	93.6	40-130		12/20/24 19:07
13C8-PFOS	87.6	40-130		12/20/24 19:07
13C2-4:2FTS	139	40-200		12/20/24 19:07
13C2-6:2FTS	118	40-200		12/20/24 19:07
13C2-8:2FTS	79.2	40-300		12/20/24 19:07
13C8-PFOSA	87.4	40-130		12/20/24 19:07
D3-NMeFOSA	59.3	10-130		12/20/24 19:07
D5-NEtFOSA	56.3	10-130		12/20/24 19:07
D3-NMeFOSAA	75.7	40-170		12/20/24 19:07
D5-NEtFOSAA	66.0	25-135		12/20/24 19:07
D7-NMeFOSE	60.6	10-130		12/20/24 19:07
D9-NEtFOSE	56.8	10-130		12/20/24 19:07
13C3-HFPO-DA	99.3	40-130		12/20/24 19:07

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: W7D | Sampled: 12/6/2024 12:30

Sample ID: 24L0567-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: W7D | Sampled: 12/6/2024 12:30

Sample ID: 24L0567-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:16	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	36.6	5-130		12/20/24 19:16
13C5-PFPeA	88.5	40-130		12/20/24 19:16
13C5-PFHxA	89.6	40-130		12/20/24 19:16
13C4-PFHpA	89.9	40-130		12/20/24 19:16
13C8-PFOA	92.9	40-130		12/20/24 19:16
13C9-PFNA	85.8	40-130		12/20/24 19:16
13C6-PFDA	88.4	40-130		12/20/24 19:16
13C7-PFUnA	84.1	30-130		12/20/24 19:16
13C2-PFDoA	78.2	10-130		12/20/24 19:16
13C2-PFTeDA	76.9	10-130		12/20/24 19:16
13C3-PFBS	94.0	40-135		12/20/24 19:16
13C3-PFHxS	93.3	40-130		12/20/24 19:16
13C8-PFOS	88.2	40-130		12/20/24 19:16
13C2-4:2FTS	117	40-200		12/20/24 19:16
13C2-6:2FTS	99.1	40-200		12/20/24 19:16
13C2-8:2FTS	85.5	40-300		12/20/24 19:16
13C8-PFOSA	92.0	40-130		12/20/24 19:16
D3-NMeFOSA	86.1	10-130		12/20/24 19:16
D5-NEtFOSA	81.2	10-130		12/20/24 19:16
D3-NMeFOSAA	88.1	40-170		12/20/24 19:16
D5-NEtFOSAA	85.5	25-135		12/20/24 19:16
D7-NMeFOSE	86.3	10-130		12/20/24 19:16
D9-NEtFOSE	84.4	10-130		12/20/24 19:16
13C3-HFPO-DA	94.8	40-130		12/20/24 19:16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: W7S | Sampled: 12/6/2024 12:40

Sample ID: 24L0567-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorohexanoic acid (PFHxA)	1.7	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorooctanoic acid (PFOA)	1.9	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorobutanesulfonic acid (PFBS)	17	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorohexanesulfonic acid (PFHxS)	6.4	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorooctanesulfonic acid (PFOS)	6.5	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: W7S | Sampled: 12/6/2024 12:40

Sample ID: 24L0567-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:25	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	94.0	5-130		12/20/24 19:25
13C5-PFPeA	92.3	40-130		12/20/24 19:25
13C5-PFHxA	92.9	40-130		12/20/24 19:25
13C4-PFHpA	92.1	40-130		12/20/24 19:25
13C8-PFOA	94.9	40-130		12/20/24 19:25
13C9-PFNA	88.9	40-130		12/20/24 19:25
13C6-PFDA	90.5	40-130		12/20/24 19:25
13C7-PFUnA	81.9	30-130		12/20/24 19:25
13C2-PFDoA	70.5	10-130		12/20/24 19:25
13C2-PFTeDA	64.6	10-130		12/20/24 19:25
13C3-PFBS	96.2	40-135		12/20/24 19:25
13C3-PFHxS	92.6	40-130		12/20/24 19:25
13C8-PFOS	88.3	40-130		12/20/24 19:25
13C2-4:2FTS	154	40-200		12/20/24 19:25
13C2-6:2FTS	111	40-200		12/20/24 19:25
13C2-8:2FTS	82.8	40-300		12/20/24 19:25
13C8-PFOSA	86.4	40-130		12/20/24 19:25
D3-NMeFOSA	71.7	10-130		12/20/24 19:25
D5-NEtFOSA	68.7	10-130		12/20/24 19:25
D3-NMeFOSAA	78.6	40-170		12/20/24 19:25
D5-NEtFOSAA	79.9	25-135		12/20/24 19:25
D7-NMeFOSE	75.5	10-130		12/20/24 19:25
D9-NEtFOSE	71.5	10-130		12/20/24 19:25
13C3-HFPO-DA	94.7	40-130		12/20/24 19:25

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-23S | Sampled: 12/6/2024 13:55

Sample ID: 24L0567-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	11	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoropentanoic acid (PFPeA)	4.2	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorohexanoic acid (PFHxA)	1.7	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: GM-23S | Sampled: 12/6/2024 13:55

Sample ID: 24L0567-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 19:34	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	89.0	5-130		12/20/24 19:34
13C5-PFPeA	87.9	40-130		12/20/24 19:34
13C5-PFHxA	88.2	40-130		12/20/24 19:34
13C4-PFHpA	88.5	40-130		12/20/24 19:34
13C8-PFOA	86.1	40-130		12/20/24 19:34
13C9-PFNA	82.5	40-130		12/20/24 19:34
13C6-PFDA	77.9	40-130		12/20/24 19:34
13C7-PFUnA	66.2	30-130		12/20/24 19:34
13C2-PFDoA	57.9	10-130		12/20/24 19:34
13C2-PFTeDA	55.2	10-130		12/20/24 19:34
13C3-PFBS	86.4	40-135		12/20/24 19:34
13C3-PFHxS	85.6	40-130		12/20/24 19:34
13C8-PFOS	76.4	40-130		12/20/24 19:34
13C2-4:2FTS	143	40-200		12/20/24 19:34
13C2-6:2FTS	106	40-200		12/20/24 19:34
13C2-8:2FTS	64.8	40-300		12/20/24 19:34
13C8-PFOSA	80.6	40-130		12/20/24 19:34
D3-NMeFOSA	59.7	10-130		12/20/24 19:34
D5-NEtFOSA	54.9	10-130		12/20/24 19:34
D3-NMeFOSAA	62.4	40-170		12/20/24 19:34
D5-NEtFOSAA	57.5	25-135		12/20/24 19:34
D7-NMeFOSE	61.9	10-130		12/20/24 19:34
D9-NEtFOSE	59.4	10-130		12/20/24 19:34
13C3-HFPO-DA	90.7	40-130		12/20/24 19:34

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: EB-01-1224 | Sampled: 12/6/2024 14:30

Sample ID: 24L0567-06

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: EB-01-1224 | Sampled: 12/6/2024 14:30

Sample ID: 24L0567-06

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	12/17/24	12/20/24 19:43	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	88.5	5-130		12/20/24 19:43
13C5-PFPeA	87.1	40-130		12/20/24 19:43
13C5-PFHxA	86.9	40-130		12/20/24 19:43
13C4-PFHpA	86.9	40-130		12/20/24 19:43
13C8-PFOA	86.5	40-130		12/20/24 19:43
13C9-PFNA	83.6	40-130		12/20/24 19:43
13C6-PFDA	85.3	40-130		12/20/24 19:43
13C7-PFUnA	78.5	30-130		12/20/24 19:43
13C2-PFDoA	72.3	10-130		12/20/24 19:43
13C2-PFTeDA	67.1	10-130		12/20/24 19:43
13C3-PFBS	87.6	40-135		12/20/24 19:43
13C3-PFHxS	84.0	40-130		12/20/24 19:43
13C8-PFOS	86.9	40-130		12/20/24 19:43
13C2-4:2FTS	111	40-200		12/20/24 19:43
13C2-6:2FTS	99.6	40-200		12/20/24 19:43
13C2-8:2FTS	76.3	40-300		12/20/24 19:43
13C8-PFOSA	82.8	40-130		12/20/24 19:43
D3-NMeFOSA	78.3	10-130		12/20/24 19:43
D5-NEtFOSA	72.6	10-130		12/20/24 19:43
D3-NMeFOSAA	78.9	40-170		12/20/24 19:43
D5-NEtFOSAA	72.6	25-135		12/20/24 19:43
D7-NMeFOSE	83.4	10-130		12/20/24 19:43
D9-NEtFOSE	81.3	10-130		12/20/24 19:43
13C3-HFPO-DA	89.9	40-130		12/20/24 19:43

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: IDW-AQ-1224 | Sampled: 12/6/2024 16:00

Sample ID: 24L0567-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.3	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoropentanoic acid (PFPeA)	10	3.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorohexanoic acid (PFHxA)	12	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoroheptanoic acid (PFHpA)	3.7	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorooctanoic acid (PFOA)	10	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorononanoic acid (PFNA)	5.5	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorobutanesulfonic acid (PFBS)	7.2	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoropentanesulfonic acid (PFPeS)	5.4	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorohexanesulfonic acid (PFHxS)	69	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoroheptanesulfonic acid (PFHpS)	3.5	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorooctanesulfonic acid (PFOS)	280	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	8.0	7.7	ng/L	1	PF-23	EPA 1633	12/17/24	12/20/24 19:53	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: IDW-AQ-1224 | Sampled: 12/6/2024 16:00

Sample ID: 24L0567-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	12/17/24	12/20/24 19:53	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	66.3	5-130		12/20/24 19:53
13C5-PFPeA	86.5	40-130		12/20/24 19:53
13C5-PFHxA	87.3	40-130		12/20/24 19:53
13C4-PFHpA	87.2	40-130		12/20/24 19:53
13C8-PFOA	90.3	40-130		12/20/24 19:53
13C9-PFNA	85.1	40-130		12/20/24 19:53
13C6-PFDA	88.2	40-130		12/20/24 19:53
13C7-PFUnA	93.2	30-130		12/20/24 19:53
13C2-PFDoA	101	10-130		12/20/24 19:53
13C2-PFTeDA	79.5	10-130		12/20/24 19:53
13C3-PFBS	84.4	40-135		12/20/24 19:53
13C3-PFHxS	85.8	40-130		12/20/24 19:53
13C8-PFOS	83.0	40-130		12/20/24 19:53
13C2-4:2FTS	163	40-200		12/20/24 19:53
13C2-6:2FTS	161	40-200		12/20/24 19:53
13C2-8:2FTS	142	40-300		12/20/24 19:53
13C8-PFOSA	81.8	40-130		12/20/24 19:53
D3-NMeFOSA	68.5	10-130		12/20/24 19:53
D5-NEtFOSA	59.6	10-130		12/20/24 19:53
D3-NMeFOSAA	61.7	40-170		12/20/24 19:53
D5-NEtFOSAA	70.1	25-135		12/20/24 19:53
D7-NMeFOSE	84.8	10-130		12/20/24 19:53
D9-NEtFOSE	76.8	10-130		12/20/24 19:53
13C3-HFPO-DA	87.6	40-130		12/20/24 19:53

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: IDW-SOIL-1224 | Sampled: 12/6/2024 17:00

Sample ID: 24L0567-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorohexanesulfonic acid (PFHxS)	0.81	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorooctanesulfonic acid (PFOS)	28	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1	PF-17	EPA 1633	12/16/24	12/18/24 20:43	AB
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1	PF-17	EPA 1633	12/16/24	12/18/24 20:43	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.0	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: IDW-SOIL-1224 | Sampled: 12/6/2024 17:00

Sample ID: 24L0567-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	12/16/24	12/18/24 20:43	AB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	88.1		8-130		12/18/24 20:43
13C5-PFPeA	96.5		35-130		12/18/24 20:43
13C5-PFHxA	101		40-130		12/18/24 20:43
13C4-PFHpA	97.0		40-130		12/18/24 20:43
13C8-PFOA	105		40-130		12/18/24 20:43
13C9-PFNA	103		40-130		12/18/24 20:43
13C6-PFDA	105		40-130		12/18/24 20:43
13C7-PFUnA	114		40-130		12/18/24 20:43
13C2-PFDoA	114		40-130		12/18/24 20:43
13C2-PFTeDA	127		20-130		12/18/24 20:43
13C3-PFBS	103		40-135		12/18/24 20:43
13C3-PFHxS	104		40-130		12/18/24 20:43
13C8-PFOS	104		40-130		12/18/24 20:43
13C2-4:2FTS	115		40-165		12/18/24 20:43
13C2-6:2FTS	127		40-215		12/18/24 20:43
13C2-8:2FTS	152		40-275		12/18/24 20:43
13C8-PFOSA	112		40-130		12/18/24 20:43
D3-NMeFOSA	96.6		10-130		12/18/24 20:43
D5-NEtFOSA	95.6		10-130		12/18/24 20:43
D3-NMeFOSAA	129		40-135		12/18/24 20:43
D5-NEtFOSAA	141		40-150		12/18/24 20:43
D7-NMeFOSE	**174**	*	20-130	PF-17	12/18/24 20:43
D9-NEtFOSE	**173**	*	15-130	PF-17	12/18/24 20:43
13C3-HFPO-DA	99.9		40-130		12/18/24 20:43

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0567

Date Received: 12/7/2024

Field Sample #: IDW-SOIL-1224 | Sampled: 12/6/2024 17:00

Sample ID: 24L0567-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.3		% Wt	1		SM 2540G	12/12/24	12/12/24 10:07	TMR/MLR

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
24L0567-08 [IDW-SOIL-1224]	B394565	6.01	4.00	12/16/24

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0567-01 [GM-13D]	B394241	527	4.00	12/17/24
24L0567-02 [GM-13S]	B394241	499	4.00	12/17/24
24L0567-03 [W7D]	B394241	493	4.00	12/17/24
24L0567-04 [W7S]	B394241	534	4.00	12/17/24
24L0567-05 [GM-23S]	B394241	529	4.00	12/17/24
24L0567-06 [EB-01-1224]	B394241	482	4.00	12/17/24
24L0567-07 [IDW-AQ-1224]	B394241	516	4.00	12/17/24

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
24L0567-08 [IDW-SOIL-1224]	B394400	12/12/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
Blank (B394241-BLK1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							PF-17
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							PF-17
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*84.0*		ng/L	79.12		106	5-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633											
Blank (B394241-BLK1)				Prepared: 12/17/24 Analyzed: 12/20/24							
Surrogate: 13C5-PFPeA	*40.8*		ng/L	39.56		103		40-130			
Surrogate: 13C5-PFHxA	*21.2*		ng/L	19.78		107		40-130			
Surrogate: 13C4-PFHpA	*21.4*		ng/L	19.78		108		40-130			
Surrogate: 13C8-PFOA	*21.0*		ng/L	19.78		106		40-130			
Surrogate: 13C9-PFNA	*10.5*		ng/L	9.890		106		40-130			
Surrogate: 13C6-PFDA	*9.85*		ng/L	9.890		99.6		40-130			
Surrogate: 13C7-PFUnA	*10.4*		ng/L	9.890		106		30-130			
Surrogate: 13C2-PFDoA	*10.2*		ng/L	9.890		103		10-130			
Surrogate: 13C2-PFTeDA	*11.0*		ng/L	9.890		111		10-130			
Surrogate: 13C3-PFBS	*22.1*		ng/L	19.78		112		40-135			
Surrogate: 13C3-PFHxS	*21.5*		ng/L	19.78		109		40-130			
Surrogate: 13C8-PFOS	*20.9*		ng/L	19.78		106		40-130			
Surrogate: 13C2-4:2FTS	*59.7*		ng/L	39.56		151		40-200			
Surrogate: 13C2-6:2FTS	*52.6*		ng/L	39.56		133		40-200			
Surrogate: 13C2-8:2FTS	*53.6*		ng/L	39.56		135		40-300			
Surrogate: 13C8-PFOSA	*22.4*		ng/L	19.78		113		40-130			
Surrogate: D3-NMeFOSA	*19.9*		ng/L	19.78		101		10-130			
Surrogate: D5-NEtFOSA	*18.7*		ng/L	19.78		94.5		10-130			
Surrogate: D3-NMeFOSAA	*47.4*		ng/L	39.56		120		40-170			
Surrogate: D5-NEtFOSAA	*47.8*		ng/L	39.56		121		25-135			
Surrogate: D7-NMeFOSE	*322*		ng/L	197.8		**163**	*	10-130			PF-17
Surrogate: D9-NEtFOSE	*308*		ng/L	197.8		**156**	*	10-130			PF-17
Surrogate: 13C3-HFPO-DA	*86.9*		ng/L	79.12		110		40-130			
LCS (B394241-BS1)				Prepared: 12/17/24 Analyzed: 12/20/24							
Perfluorobutanoic acid (PFBA)	66.1	6.3	ng/L	79.19		83.5		70-140			
Perfluoropentanoic acid (PFPeA)	34.1	3.2	ng/L	39.59		86.0		65-135			
Perfluorohexanoic acid (PFHxA)	17.5	1.6	ng/L	19.80		88.3		70-145			
Perfluoroheptanoic acid (PFHpA)	16.3	1.6	ng/L	19.80		82.5		70-150			
Perfluorooctanoic acid (PFOA)	16.6	1.6	ng/L	19.80		83.8		70-150			
Perfluorononanoic acid (PFNA)	16.7	1.6	ng/L	19.80		84.3		70-150			
Perfluorodecanoic acid (PFDA)	16.5	1.6	ng/L	19.80		83.3		70-140			
Perfluoroundecanoic acid (PFUnA)	17.1	1.6	ng/L	19.80		86.5		70-145			
Perfluorododecanoic acid (PFDoA)	17.3	1.6	ng/L	19.80		87.4		70-140			
Perfluorotridecanoic acid (PFTrDA)	17.2	1.6	ng/L	19.80		86.9		65-140			
Perfluorotetradecanoic acid (PFTeDA)	17.3	1.6	ng/L	19.80		87.4		60-140			
Perfluorobutanesulfonic acid (PFBS)	15.2	1.6	ng/L	19.80		76.6		60-145			
Perfluoropentanesulfonic acid (PFPeS)	16.2	1.6	ng/L	19.80		81.8		65-140			
Perfluorohexanesulfonic acid (PFHxS)	14.9	1.6	ng/L	19.80		75.0		65-145			
Perfluoroheptanesulfonic acid (PFHpS)	17.9	1.6	ng/L	19.80		90.4		70-150			
Perfluorooctanesulfonic acid (PFOS)	16.1	1.6	ng/L	19.80		81.2		55-150			
Perfluorononanesulfonic acid (PFNS)	18.0	1.6	ng/L	19.80		90.9		65-145			
Perfluorodecanesulfonic acid (PFDS)	17.6	1.6	ng/L	19.80		88.9		60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.3	1.6	ng/L	19.80		82.5		50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	67.6	6.3	ng/L	79.19		85.3		70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	67.2	6.3	ng/L	79.19		84.8		65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	69.9	6.3	ng/L	79.19		88.2		60-150			
Perfluorooctanesulfonamide (PFOSA)	17.9	1.6	ng/L	19.80		90.2		70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	17.2	1.6	ng/L	19.80		86.6		60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
LCS (B394241-BS1)				Prepared: 12/17/24 Analyzed: 12/20/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	16.9	1.6	ng/L	19.80		85.2	65-145			
N-MeFOSAA (NMeFOSAA)	16.2	1.6	ng/L	19.80		82.1	50-140			
N-EtFOSAA (NEtFOSAA)	17.1	1.6	ng/L	19.80		86.5	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	174	16	ng/L	198.0		88.1	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	175	16	ng/L	198.0		88.5	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	71.6	6.3	ng/L	79.19		90.5	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	62.6	6.3	ng/L	79.19		79.0	65-145			
9Cl-PF3ONS (F53B Minor)	68.3	6.3	ng/L	79.19		86.3	70-155			
11Cl-PF3OUdS (F53B Major)	67.6	6.3	ng/L	79.19		85.4	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	78.6	7.9	ng/L	98.99		79.4	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	414	40	ng/L	494.9		83.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	423	40	ng/L	494.9		85.5	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	29.3	3.2	ng/L	39.59		73.9	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	33.2	3.2	ng/L	39.59		83.8	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	35.0	3.2	ng/L	39.59		88.4	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	36.3	3.2	ng/L	39.59		91.8	50-150			
Surrogate: 13C4-PFBA	*81.3*		ng/L	79.19		103	5-130			
Surrogate: 13C5-PFPeA	*39.1*		ng/L	39.59		98.8	40-130			
Surrogate: 13C5-PFHxA	*19.6*		ng/L	19.80		98.9	40-130			
Surrogate: 13C4-PFHpA	*19.7*		ng/L	19.80		99.7	40-130			
Surrogate: 13C8-PFOA	*20.5*		ng/L	19.80		103	40-130			
Surrogate: 13C9-PFNA	*10.1*		ng/L	9.899		102	40-130			
Surrogate: 13C6-PFDA	*10.7*		ng/L	9.899		108	40-130			
Surrogate: 13C7-PFUnA	*9.95*		ng/L	9.899		101	30-130			
Surrogate: 13C2-PFDoA	*9.11*		ng/L	9.899		92.1	10-130			
Surrogate: 13C2-PFTeDA	*9.05*		ng/L	9.899		91.4	10-130			
Surrogate: 13C3-PFBS	*21.2*		ng/L	19.80		107	40-135			
Surrogate: 13C3-PFHxS	*20.4*		ng/L	19.80		103	40-130			
Surrogate: 13C8-PFOS	*19.8*		ng/L	19.80		100	40-130			
Surrogate: 13C2-4:2FTS	*45.6*		ng/L	39.59		115	40-200			
Surrogate: 13C2-6:2FTS	*45.6*		ng/L	39.59		115	40-200			
Surrogate: 13C2-8:2FTS	*37.1*		ng/L	39.59		93.7	40-300			
Surrogate: 13C8-PFOSA	*19.8*		ng/L	19.80		100	40-130			
Surrogate: D3-NMeFOSA	*16.7*		ng/L	19.80		84.3	10-130			
Surrogate: D5-NEtFOSA	*16.6*		ng/L	19.80		84.0	10-130			
Surrogate: D3-NMeFOSAA	*41.5*		ng/L	39.59		105	40-170			
Surrogate: D5-NEtFOSAA	*39.7*		ng/L	39.59		100	25-135			
Surrogate: D7-NMeFOSE	*206*		ng/L	198.0		104	10-130			
Surrogate: D9-NEtFOSE	*206*		ng/L	198.0		104	10-130			
Surrogate: 13C3-HFPO-DA	*79.9*		ng/L	79.19		101	40-130			
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	10.5	6.3	ng/L	12.67		82.6	70-140			
Perfluoropentanoic acid (PFPeA)	5.15	3.2	ng/L	6.333		81.2	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorohexanoic acid (PFHxA)	2.66	1.6	ng/L	3.167		83.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.49	1.6	ng/L	3.167		78.5	70-150			
Perfluorooctanoic acid (PFOA)	2.63	1.6	ng/L	3.167		83.0	70-150			
Perfluorononanoic acid (PFNA)	2.45	1.6	ng/L	3.167		77.3	70-150			
Perfluorodecanoic acid (PFDA)	2.61	1.6	ng/L	3.167		82.3	70-140			
Perfluoroundecanoic acid (PFUnA)	2.58	1.6	ng/L	3.167		81.6	70-145			
Perfluorododecanoic acid (PFDoA)	2.53	1.6	ng/L	3.167		79.9	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.63	1.6	ng/L	3.167		83.0	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.63	1.6	ng/L	3.167		83.0	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.36	1.6	ng/L	2.812		83.8	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.37	1.6	ng/L	2.977		79.6	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.29	1.6	ng/L	2.888		79.2	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.70	1.6	ng/L	3.015		89.4	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.27	1.6	ng/L	2.939		77.4	55-150			
Perfluorononanesulfonic acid (PFNS)	2.46	1.6	ng/L	3.040		80.9	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.38	1.6	ng/L	3.053		78.0	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.13	1.6	ng/L	3.065		69.6	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.1	6.3	ng/L	11.87		85.0	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.99	6.3	ng/L	12.05		82.9	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.0	6.3	ng/L	12.16		90.5	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.74	1.6	ng/L	3.167		86.6	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.60	1.6	ng/L	3.167		82.2	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.95	1.6	ng/L	3.167		93.1	65-145			
N-MeFOSAA (NMeFOSAA)	2.45	1.6	ng/L	3.167		77.5	50-140			
N-EtFOSAA (NEtFOSAA)	2.35	1.6	ng/L	3.167		74.1	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	28.0	16	ng/L	31.67		88.5	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	26.8	16	ng/L	31.67		84.6	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.5	6.3	ng/L	12.67		83.3	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.0	6.3	ng/L	11.97		83.7	65-145			
9Cl-PF3ONS (F53B Minor)	10.5	6.3	ng/L	11.82		89.2	70-155			
11Cl-PF3OUdS (F53B Major)	10.1	6.3	ng/L	11.83		85.5	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	12.0	7.9	ng/L	15.83		75.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	64.6	40	ng/L	79.16		81.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	63.9	40	ng/L	79.16		80.7	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.58	3.2	ng/L	5.649		81.1	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.13	3.2	ng/L	6.333		81.0	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.28	3.2	ng/L	6.333		83.3	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.99	3.2	ng/L	6.333		94.6	50-150			
Surrogate: 13C4-PFBA	*83.7*		ng/L	79.16		106	5-130			
Surrogate: 13C5-PFPeA	*41.2*		ng/L	39.58		104	40-130			
Surrogate: 13C5-PFHxA	*20.7*		ng/L	19.79		104	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Surrogate: 13C4-PFHpA	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C8-PFOA	*20.9*		ng/L	19.79		106	40-130			
Surrogate: 13C9-PFNA	*10.7*		ng/L	9.896		108	40-130			
Surrogate: 13C6-PFDA	*10.1*		ng/L	9.896		102	40-130			
Surrogate: 13C7-PFUnA	*10.1*		ng/L	9.896		102	30-130			
Surrogate: 13C2-PFDoA	*9.60*		ng/L	9.896		97.0	10-130			
Surrogate: 13C2-PFTeDA	*9.03*		ng/L	9.896		91.3	10-130			
Surrogate: 13C3-PFBS	*20.4*		ng/L	19.79		103	40-135			
Surrogate: 13C3-PFHxS	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C8-PFOS	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C2-4:2FTS	*47.2*		ng/L	39.58		119	40-200			
Surrogate: 13C2-6:2FTS	*44.7*		ng/L	39.58		113	40-200			
Surrogate: 13C2-8:2FTS	*37.1*		ng/L	39.58		93.8	40-300			
Surrogate: 13C8-PFOSA	*20.5*		ng/L	19.79		104	40-130			
Surrogate: D3-NMeFOSA	*18.0*		ng/L	19.79		90.8	10-130			
Surrogate: D5-NEtFOSA	*17.7*		ng/L	19.79		89.6	10-130			
Surrogate: D3-NMeFOSAA	*43.5*		ng/L	39.58		110	40-170			
Surrogate: D5-NEtFOSAA	*43.0*		ng/L	39.58		109	25-135			
Surrogate: D7-NMeFOSE	*215*		ng/L	197.9		109	10-130			
Surrogate: D9-NEtFOSE	*220*		ng/L	197.9		111	10-130			
Surrogate: 13C3-HFPO-DA	*86.8*		ng/L	79.16		110	40-130			
Batch B394565 - EPA 1633										
Blank (B394565-BLK1)				Prepared: 12/16/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394565 - EPA 1633										
Blank (B394565-BLK1)				Prepared: 12/16/24 Analyzed: 12/17/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.0	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	5.0	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg wet							
Surrogate: 13C4-PFBA	*6.19*		µg/kg wet	7.965		77.7	8-130			
Surrogate: 13C5-PFPeA	*4.43*		µg/kg wet	3.982		111	35-130			
Surrogate: 13C5-PFHxA	*2.34*		µg/kg wet	1.991		117	40-130			
Surrogate: 13C4-PFHpA	*2.41*		µg/kg wet	1.991		121	40-130			
Surrogate: 13C8-PFOA	*2.21*		µg/kg wet	1.991		111	40-130			
Surrogate: 13C9-PFNA	*1.18*		µg/kg wet	0.9956		118	40-130			
Surrogate: 13C6-PFDA	*1.22*		µg/kg wet	0.9956		122	40-130			
Surrogate: 13C7-PFUnA	*1.26*		µg/kg wet	0.9956		127	40-130			
Surrogate: 13C2-PFDoA	*1.17*		µg/kg wet	0.9956		117	40-130			
Surrogate: 13C2-PFTeDA	*1.18*		µg/kg wet	0.9956		119	20-130			
Surrogate: 13C3-PFBS	*2.40*		µg/kg wet	1.991		121	40-135			
Surrogate: 13C3-PFHxS	*2.43*		µg/kg wet	1.991		122	40-130			
Surrogate: 13C8-PFOS	*2.33*		µg/kg wet	1.991		117	40-130			
Surrogate: 13C2-4:2FTS	*5.39*		µg/kg wet	3.982		135	40-165			
Surrogate: 13C2-6:2FTS	*5.22*		µg/kg wet	3.982		131	40-215			
Surrogate: 13C2-8:2FTS	*4.75*		µg/kg wet	3.982		119	40-275			
Surrogate: 13C8-PFOSA	*2.23*		µg/kg wet	1.991		112	40-130			
Surrogate: D3-NMeFOSA	*2.13*		µg/kg wet	1.991		107	10-130			
Surrogate: D5-NEtFOSA	*2.14*		µg/kg wet	1.991		107	10-130			
Surrogate: D3-NMeFOSAA	*5.06*		µg/kg wet	3.982		127	40-135			
Surrogate: D5-NEtFOSAA	*5.22*		µg/kg wet	3.982		131	40-150			
Surrogate: D7-NMeFOSE	*23.4*		µg/kg wet	19.91		117	20-130			
Surrogate: D9-NEtFOSE	*22.9*		µg/kg wet	19.91		115	15-130			
Surrogate: 13C3-HFPO-DA	*10.1*		µg/kg wet	7.965		127	40-130			
LCS (B394565-BS1)				Prepared: 12/16/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	6.07	0.78	µg/kg wet	7.812		77.7	70-140			
Perfluoropentanoic acid (PFPeA)	3.06	0.39	µg/kg wet	3.906		78.3	60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394565 - EPA 1633										
LCS (B394565-BS1)				Prepared: 12/16/24 Analyzed: 12/17/24						
Perfluorohexanoic acid (PFHxA)	1.57	0.20	µg/kg wet	1.953		80.6	65-140			
Perfluoroheptanoic acid (PFHpA)	1.54	0.20	µg/kg wet	1.953		78.8	65-145			
Perfluorooctanoic acid (PFOA)	1.56	0.20	µg/kg wet	1.953		79.9	70-150			
Perfluorononanoic acid (PFNA)	1.55	0.20	µg/kg wet	1.953		79.4	70-155			
Perfluorodecanoic acid (PFDA)	1.58	0.20	µg/kg wet	1.953		80.8	70-155			
Perfluoroundecanoic acid (PFUnA)	1.58	0.20	µg/kg wet	1.953		81.1	70-155			
Perfluorododecanoic acid (PFDoA)	1.61	0.20	µg/kg wet	1.953		82.6	70-150			
Perfluorotridecanoic acid (PFTrDA)	1.63	0.20	µg/kg wet	1.953		83.7	65-150			
Perfluorotetradecanoic acid (PFTeDA)	1.66	0.20	µg/kg wet	1.953		84.9	65-150			
Perfluorobutanesulfonic acid (PFBS)	1.44	0.20	µg/kg wet	1.734		83.3	65-145			
Perfluoropentanesulfonic acid (PFPeS)	1.59	0.20	µg/kg wet	1.836		86.4	55-160			
Perfluorohexanesulfonic acid (PFHxS)	1.41	0.20	µg/kg wet	1.781		79.2	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	1.59	0.20	µg/kg wet	1.859		85.3	65-155			
Perfluorooctanesulfonic acid (PFOS)	1.44	0.20	µg/kg wet	1.812		79.6	65-160			
Perfluorononanesulfonic acid (PFNS)	1.54	0.20	µg/kg wet	1.875		82.0	55-140			
Perfluorodecanesulfonic acid (PFDS)	1.57	0.20	µg/kg wet	1.883		83.6	40-155			
Perfluorododecanesulfonic acid (PFDoS)	1.57	0.20	µg/kg wet	1.891		82.9	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	6.38	0.78	µg/kg wet	7.320		87.1	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	6.42	0.78	µg/kg wet	7.430		86.4	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	6.28	0.78	µg/kg wet	7.500		83.7	70-150			
Perfluorooctanesulfonamide (PFOSA)	1.56	0.20	µg/kg wet	1.953		79.7	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.51	0.20	µg/kg wet	1.953		77.4	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.50	0.20	µg/kg wet	1.953		77.0	70-140			
N-MeFOSAA (NMeFOSAA)	1.61	0.20	µg/kg wet	1.953		82.4	65-155			
N-EtFOSAA (NEtFOSAA)	1.57	0.20	µg/kg wet	1.953		80.3	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	16.1	2.0	µg/kg wet	19.53		82.5	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	16.2	2.0	µg/kg wet	19.53		83.0	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.44	0.78	µg/kg wet	7.812		82.5	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	5.88	0.78	µg/kg wet	7.383		79.7	70-160			
9Cl-PF3ONS (F53B Minor)	6.15	0.78	µg/kg wet	7.289		84.3	70-150			
11Cl-PF3OUdS (F53B Major)	6.23	0.78	µg/kg wet	7.297		85.3	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	4.89	0.98	µg/kg wet	9.766		50.1	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	37.4	4.9	µg/kg wet	48.83		76.7	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	37.6	4.9	µg/kg wet	48.83		77.0	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.87	0.39	µg/kg wet	3.484		82.5	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.30	0.39	µg/kg wet	3.906		84.6	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.30	0.39	µg/kg wet	3.906		84.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.78	0.39	µg/kg wet	3.906		96.9	60-155			
Surrogate: 13C4-PFBA	*4.98*		µg/kg wet	7.812		63.8	8-130			
Surrogate: 13C5-PFPeA	*3.81*		µg/kg wet	3.906		97.5	35-130			
Surrogate: 13C5-PFHxA	*2.08*		µg/kg wet	1.953		107	40-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394565 - EPA 1633										
LCS (B394565-BS1)				Prepared: 12/16/24 Analyzed: 12/17/24						
Surrogate: 13C4-PFHpA	*2.14*		µg/kg wet	1.953		109	40-130			
Surrogate: 13C8-PFOA	*2.14*		µg/kg wet	1.953		110	40-130			
Surrogate: 13C9-PFNA	*1.08*		µg/kg wet	0.9766		111	40-130			
Surrogate: 13C6-PFDA	*1.14*		µg/kg wet	0.9766		117	40-130			
Surrogate: 13C7-PFUnA	*1.17*		µg/kg wet	0.9766		120	40-130			
Surrogate: 13C2-PFDoA	*1.09*		µg/kg wet	0.9766		112	40-130			
Surrogate: 13C2-PFTeDA	*1.07*		µg/kg wet	0.9766		109	20-130			
Surrogate: 13C3-PFBS	*2.13*		µg/kg wet	1.953		109	40-135			
Surrogate: 13C3-PFHxS	*2.10*		µg/kg wet	1.953		108	40-130			
Surrogate: 13C8-PFOS	*2.20*		µg/kg wet	1.953		113	40-130			
Surrogate: 13C2-4:2FTS	*4.39*		µg/kg wet	3.906		112	40-165			
Surrogate: 13C2-6:2FTS	*4.36*		µg/kg wet	3.906		112	40-215			
Surrogate: 13C2-8:2FTS	*4.36*		µg/kg wet	3.906		112	40-275			
Surrogate: 13C8-PFOSA	*2.03*		µg/kg wet	1.953		104	40-130			
Surrogate: D3-NMeFOSA	*1.98*		µg/kg wet	1.953		101	10-130			
Surrogate: D5-NEtFOSA	*1.97*		µg/kg wet	1.953		101	10-130			
Surrogate: D3-NMeFOSAA	*4.95*		µg/kg wet	3.906		127	40-135			
Surrogate: D5-NEtFOSAA	*4.91*		µg/kg wet	3.906		126	40-150			
Surrogate: D7-NMeFOSE	*21.7*		µg/kg wet	19.53		111	20-130			
Surrogate: D9-NEtFOSE	*21.6*		µg/kg wet	19.53		111	15-130			
Surrogate: 13C3-HFPO-DA	*9.13*		µg/kg wet	7.812		117	40-130			
MRL Check (B394565-MRL1)				Prepared: 12/16/24 Analyzed: 12/17/24						
Perfluorobutanoic acid (PFBA)	1.17	0.79	µg/kg wet	1.583		74.2	70-140			
Perfluoropentanoic acid (PFPeA)	0.600	0.40	µg/kg wet	0.7913		75.8	60-150			
Perfluorohexanoic acid (PFHxA)	0.311	0.20	µg/kg wet	0.3956		78.7	65-140			
Perfluoroheptanoic acid (PFHpA)	0.291	0.20	µg/kg wet	0.3956		73.6	65-145			
Perfluorooctanoic acid (PFOA)	0.323	0.20	µg/kg wet	0.3956		81.6	70-150			
Perfluorononanoic acid (PFNA)	0.290	0.20	µg/kg wet	0.3956		73.4	70-155			
Perfluorodecanoic acid (PFDA)	0.309	0.20	µg/kg wet	0.3956		78.1	70-155			
Perfluoroundecanoic acid (PFUnA)	0.281	0.20	µg/kg wet	0.3956		71.1	70-155			
Perfluorododecanoic acid (PFDoA)	0.332	0.20	µg/kg wet	0.3956		84.0	70-150			
Perfluorotridecanoic acid (PFTrDA)	0.315	0.20	µg/kg wet	0.3956		79.5	65-150			
Perfluorotetradecanoic acid (PFTeDA)	0.318	0.20	µg/kg wet	0.3956		80.4	65-150			
Perfluorobutanesulfonic acid (PFBS)	0.265	0.20	µg/kg wet	0.3513		75.5	65-145			
Perfluoropentanesulfonic acid (PFPeS)	0.277	0.20	µg/kg wet	0.3719		74.6	55-160			
Perfluorohexanesulfonic acid (PFHxS)	0.280	0.20	µg/kg wet	0.3608		77.7	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	0.290	0.20	µg/kg wet	0.3767		77.0	65-155			
Perfluorooctanesulfonic acid (PFOS)	0.291	0.20	µg/kg wet	0.3672		79.2	65-160			
Perfluorononanesulfonic acid (PFNS)	0.303	0.20	µg/kg wet	0.3798		79.8	55-140			
Perfluorodecanesulfonic acid (PFDS)	0.299	0.20	µg/kg wet	0.3814		78.4	40-155			
Perfluorododecanesulfonic acid (PFDoS)	0.284	0.20	µg/kg wet	0.3830		74.2	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	1.12	0.79	µg/kg wet	1.483		75.4	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	1.17	0.79	µg/kg wet	1.505		77.5	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	1.31	0.79	µg/kg wet	1.519		86.1	70-150			
Perfluorooctanesulfonamide (PFOSA)	0.296	0.20	µg/kg wet	0.3956		74.8	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.337	0.20	µg/kg wet	0.3956		85.2	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.284	0.20	µg/kg wet	0.3956		71.9	70-140			
N-MeFOSAA (NMeFOSAA)	0.306	0.20	µg/kg wet	0.3956		77.3	65-155			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394565 - EPA 1633										
MRL Check (B394565-MRL1)				Prepared: 12/16/24 Analyzed: 12/17/24						
N-EtFOSAA (NEtFOSAA)	0.317	0.20	µg/kg wet	0.3956		80.1	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	3.09	2.0	µg/kg wet	3.956		78.1	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	3.18	2.0	µg/kg wet	3.956		80.3	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.31	0.79	µg/kg wet	1.583		83.0	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.15	0.79	µg/kg wet	1.496		76.7	70-160			
9Cl-PF3ONS (F53B Minor)	1.21	0.79	µg/kg wet	1.477		82.1	70-150			
11Cl-PF3OUdS (F53B Major)	1.17	0.79	µg/kg wet	1.478		79.4	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	1.04	0.99	µg/kg wet	1.978		52.4	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	6.56	4.9	µg/kg wet	9.891		66.4	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	6.67	4.9	µg/kg wet	9.891		67.5	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.548	0.40	µg/kg wet	0.7058		77.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.624	0.40	µg/kg wet	0.7913		78.9	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.616	0.40	µg/kg wet	0.7913		77.8	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.761	0.40	µg/kg wet	0.7913		96.2	60-155			
Surrogate: 13C4-PFBA	*6.88*		µg/kg wet	7.913		86.9	8-130			
Surrogate: 13C5-PFPeA	*3.82*		µg/kg wet	3.956		96.6	35-130			
Surrogate: 13C5-PFHxA	*1.89*		µg/kg wet	1.978		95.3	40-130			
Surrogate: 13C4-PFHpA	*1.91*		µg/kg wet	1.978		96.4	40-130			
Surrogate: 13C8-PFOA	*1.86*		µg/kg wet	1.978		94.1	40-130			
Surrogate: 13C9-PFNA	*0.968*		µg/kg wet	0.9891		97.9	40-130			
Surrogate: 13C6-PFDA	*0.952*		µg/kg wet	0.9891		96.3	40-130			
Surrogate: 13C7-PFUnA	*0.990*		µg/kg wet	0.9891		100	40-130			
Surrogate: 13C2-PFDoA	*0.897*		µg/kg wet	0.9891		90.7	40-130			
Surrogate: 13C2-PFTeDA	*0.906*		µg/kg wet	0.9891		91.6	20-130			
Surrogate: 13C3-PFBS	*1.85*		µg/kg wet	1.978		93.3	40-135			
Surrogate: 13C3-PFHxS	*1.89*		µg/kg wet	1.978		95.4	40-130			
Surrogate: 13C8-PFOS	*1.94*		µg/kg wet	1.978		97.8	40-130			
Surrogate: 13C2-4:2FTS	*4.19*		µg/kg wet	3.956		106	40-165			
Surrogate: 13C2-6:2FTS	*3.93*		µg/kg wet	3.956		99.3	40-215			
Surrogate: 13C2-8:2FTS	*3.85*		µg/kg wet	3.956		97.3	40-275			
Surrogate: 13C8-PFOSA	*1.86*		µg/kg wet	1.978		94.2	40-130			
Surrogate: D3-NMeFOSA	*1.57*		µg/kg wet	1.978		79.4	10-130			
Surrogate: D5-NEtFOSA	*1.67*		µg/kg wet	1.978		84.3	10-130			
Surrogate: D3-NMeFOSAA	*4.19*		µg/kg wet	3.956		106	40-135			
Surrogate: D5-NEtFOSAA	*3.98*		µg/kg wet	3.956		101	40-150			
Surrogate: D7-NMeFOSE	*18.6*		µg/kg wet	19.78		93.9	20-130			
Surrogate: D9-NEtFOSE	*18.0*		µg/kg wet	19.78		91.1	15-130			
Surrogate: 13C3-HFPO-DA	*8.35*		µg/kg wet	7.913		106	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires

24L0567 RF

Doc # 381 Rev 2_06262019

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Phone: 413-525-2332

Company: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number:
Invoice Recipient: MBI
Sampled By: B. McKula / A. Casey

7-Day ☐ 10-Day ☐
RUSH (Pre-Approval Required) ☒ Due Date:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Field Filtered ○
Lab to Filter ○
Field Filtered ○
Lab to Filter ○

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite/Grab	Matrix Code	Cont. Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
1	GM-130	12/6/24	1025	G	GW				3			X	X
2	GM-135		1035						3				
3	WTD		1230						3				
4	WTS		1240						3				
5	GM-235		1355						3				
6	EB-01-1224		1430		W				3				
7	IDW-AQ-1224		1600	Comp	S				3				
8	IDW-SOIL-1224		1700	Comp	S				3				

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature) — Date/Time: 12/6/24 2030
Received by: (signature) — Date/Time: 12/7/24 1119
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments:

Site ☐ MA MCP Required
MCP Certification Form Required
RCP ☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

ELAP and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:
8053 1784 9158

Disclaimer: Con-Test labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl.

Project # 189432

MCP/RCP Required no

Deliverable Package Requirement none

Location Saegertown, PA

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time ER 12/7/24 1119

Back-Sheet By / Date / Time MKM 12/9/24 2114

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 2.8

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Double volume received for Sample # 7.

* Samples not indicated on the COC received.. PM notified

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Soils Jars (Circle Amb/Clear)	16oz Amb/Clear																				
	8oz Amb/Clear																				
	4oz Amb/Clear																				
	2oz Amb/Clear																				
Ambers 1 Liter	Unpreserved																				
	HCL																				
	Sulfuric																				
Ambers 250mL	Sulfuric																				
	Phosphoric																				
	HCl																				
Ambers 100mL	Unpreserved																				
Plastics 1 Liter	Unpreserved																				
	Sulfuric																				
Plastics 500mL	Unpreserved	2	→				→	4													
Plastics 250mL	Sulfuric																				
	Unpreserved								1												
	Trizma																				
	Sulfuric																				
	Nitric																				
	NaOH																				
	Ammonium Acetate																				
	NaOH/Zinc																				
VOA Vials	Unpreserved																				
	HCl																				
	MeOH																				
	D.I. Water																				
	Bisulfate																				
Other / Fill in	Col/Bact																				
	Other								2	.											
	125mL plastic unp	—	→				→	2													

DELIVERED

Saturday

12/7/24 at 11:19 AM

Signed for by: R.LAI

Obtain proof of delivery

DELIVERY STATUS

Delivered

Report missing package

How was your delivery?

☆ ☆ ☆ ☆ ☆

ADD YOUR EMAIL TO STAY UPDATED ON THIS SHIPMENT

Contestlab39

✖ Your email is invalid.

GET UPDATES

MORE OPTIONS

TRACKING ID

805317849158

FROM
CARPOLIS, PA US

WE HAVE YOUR PACKAGE
MOON TOWNSHIP, PA
12/6/24 9:18 PM

ON THE WAY
WINDSOR LOCKS, CT
12/7/24 8:20 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
12/7/24 8:25 AM

DELIVERED
E LONGMEADOW, MA US
Delivered
12/7/24 at 11:19 AM

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 18, 2025

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189432
Laboratory Work Order Number: 25D0377

Enclosed are results of analyses for samples as received by the laboratory on April 4, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 4/18/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25D0377

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
BMW-2	25D0377-01	Ground Water		EPA 1633	
BMW-3	25D0377-02	Ground Water		EPA 1633	
BMW-10	25D0377-03	Ground Water		EPA 1633	
FB-0425	25D0377-04	Field Blank		EPA 1633	
PW-1	25D0377-05	Ground Water		EPA 1633	
PW-2	25D0377-06	Ground Water		EPA 1633	
PW-6	25D0377-07	Ground Water		EPA 1633	
PW-6 DUP	25D0377-08	Ground Water		EPA 1633	
PW-7	25D0377-09	Ground Water		EPA 1633	
EB-02-0425	25D0377-10	Equipment Blank Water		EPA 1633	
IDW-AQ-0425	25D0377-11	Ground Water		EPA 1633	
IDW-SOIL-0425	25D0377-12	Soil		EPA 1633	
				SM 2540G	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

EPA 1633

Qualifications:

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-4:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-6:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-8:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFDoA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFHxA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFTeDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-HFPO-DA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFBA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFBS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFHxS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFBA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFHpA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFOA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFOS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFHxA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFNA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFPeA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C6-PFDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C7-PFUnA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C9-PFNA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

18O2-PFHxS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTC
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

9Cl-PF3ONS (F53B Minor)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D3-NMeFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D3-NMeFOSAA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D5-NEtFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D5-NEtFOSAA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D7-NMeFOSE
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D9-NEtFOSE
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Hexafluoropropylene oxide dimer acid (HFPO-DA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-EtFOSAA (NEtFOSAA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-MeFOSAA (NMeFOSAA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-methylperfluorooctanesulfonamidoethanol(NMeF
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro-3-methoxypropanoic acid (PFMPA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro-4-methoxybutanoic acid (PFMBA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorobutanesulfonic acid (PFBS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorobutanoic acid (PFBA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorodecanesulfonic acid (PFDS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorodecanoic acid (PFDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorododecanesulfonic acid (PFDoS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorododecanoic acid (PFDoA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

Perfluoroheptanesulfonic acid (PFHpS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoroheptanoic acid (PFHpA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorohexanesulfonic acid (PFHxS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorohexanoic acid (PFHxA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorononanesulfonic acid (PFNS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorononanoic acid (PFNA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanesulfonamide (PFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanesulfonic acid (PFOS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanoic acid (PFOA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoropentanesulfonic acid (PFPeS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoropentanoic acid (PFPeA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorotetradecanoic acid (PFTeDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorotridecanoic acid (PFTrDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoroundecanoic acid (PFUnA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3], B402935-BLK1, B402935-MRL1

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-2 | Sampled: 4/2/2025 13:15

Sample ID: 25D0377-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoropentanoic acid (PFPeA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorohexanoic acid (PFHxA)	48	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroheptanoic acid (PFHpA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanoic acid (PFOA)	44	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorononanoic acid (PFNA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorodecanoic acid (PFDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroundecanoic acid (PFUnA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorododecanoic acid (PFDoA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorotridecanoic acid (PFTrDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorobutanesulfonic acid (PFBS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoropentanesulfonic acid (PFPeS)	58	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorohexanesulfonic acid (PFHxS)	1200	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroheptanesulfonic acid (PFHpS)	40	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanesulfonic acid (PFOS)	6900	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorononanesulfonic acid (PFNS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorodecanesulfonic acid (PFDS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanesulfonamide (PFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-MeFOSAA (NMeFOSAA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-EtFOSAA (NEtFOSAA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
9Cl-PF3ONS (F53B Minor)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
11Cl-PF3OUdS (F53B Major)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	800	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 12:12	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	800	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-2 | Sampled: 4/2/2025 13:15

Sample ID: 25D0377-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	72.8	5-130	D-01	4/15/25 12:12
13C5-PFPeA	72.5	40-130	D-01	4/15/25 12:12
13C5-PFHxA	73.1	40-130	D-01	4/15/25 12:12
13C4-PFHpA	68.6	40-130	D-01	4/15/25 12:12
13C8-PFOA	80.1	40-130	D-01	4/15/25 12:12
13C9-PFNA	78.3	40-130	D-01	4/15/25 12:12
13C6-PFDA	73.2	40-130	D-01	4/15/25 12:12
13C7-PFUnA	75.4	30-130	D-01	4/15/25 12:12
13C2-PFDoA	66.7	10-130	D-01	4/15/25 12:12
13C2-PFTeDA	61.8	10-130	D-01	4/15/25 12:12
13C3-PFBS	65.9	40-135	D-01	4/15/25 12:12
13C3-PFHxS	72.6	40-130	D-01	4/15/25 12:12
13C8-PFOS	72.3	40-130	D-01	4/15/25 12:12
13C2-4:2FTS	68.6	40-200	D-01	4/15/25 12:12
13C2-6:2FTS	71.7	40-200	D-01	4/15/25 12:12
13C2-8:2FTS	68.3	40-300	D-01	4/15/25 12:12
13C8-PFOSA	67.1	40-130	D-01	4/15/25 12:12
D3-NMeFOSA	60.6	10-130	D-01	4/15/25 12:12
D5-NEtFOSA	61.3	10-130	D-01	4/15/25 12:12
D3-NMeFOSAA	73.2	40-170	D-01	4/15/25 12:12
D5-NEtFOSAA	70.6	25-135	D-01	4/15/25 12:12
D7-NMeFOSE	56.1	10-130	D-01	4/15/25 12:12
D9-NEtFOSE	53.7	10-130	D-01	4/15/25 12:12
13C3-HFPO-DA	79.0	40-130	D-01	4/15/25 12:12

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-3 | Sampled: 4/2/2025 16:15

Sample ID: 25D0377-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoropentanoic acid (PFPeA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorohexanoic acid (PFHxA)	420	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroheptanoic acid (PFHpA)	200	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanoic acid (PFOA)	300	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorononanoic acid (PFNA)	260	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorodecanoic acid (PFDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorododecanoic acid (PFDoA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorobutanesulfonic acid (PFBS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoropentanesulfonic acid (PFPeS)	200	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorohexanesulfonic acid (PFHxS)	4600	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroheptanesulfonic acid (PFHpS)	210	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanesulfonic acid (PFOS)	36000	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorononanesulfonic acid (PFNS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorodecanesulfonic acid (PFDS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanesulfonamide (PFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-MeFOSAA (NMeFOSAA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-EtFOSAA (NEtFOSAA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1600	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1600	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
9Cl-PF3ONS (F53B Minor)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
11Cl-PF3OUdS (F53B Major)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	800	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4000	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 12:21	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4000	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-3 | Sampled: 4/2/2025 16:15

Sample ID: 25D0377-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.9	5-130	D-01	4/15/25 12:21
13C5-PFPeA	78.2	40-130	D-01	4/15/25 12:21
13C5-PFHxA	78.2	40-130	D-01	4/15/25 12:21
13C4-PFHpA	73.8	40-130	D-01	4/15/25 12:21
13C8-PFOA	86.9	40-130	D-01	4/15/25 12:21
13C9-PFNA	80.3	40-130	D-01	4/15/25 12:21
13C6-PFDA	84.0	40-130	D-01	4/15/25 12:21
13C7-PFUnA	82.2	30-130	D-01	4/15/25 12:21
13C2-PFDoA	73.2	10-130	D-01	4/15/25 12:21
13C2-PFTeDA	66.8	10-130	D-01	4/15/25 12:21
13C3-PFBS	73.0	40-135	D-01	4/15/25 12:21
13C3-PFHxS	81.5	40-130	D-01	4/15/25 12:21
13C8-PFOS	79.3	40-130	D-01	4/15/25 12:21
13C2-4:2FTS	62.1	40-200	D-01	4/15/25 12:21
13C2-6:2FTS	69.1	40-200	D-01	4/15/25 12:21
13C2-8:2FTS	74.9	40-300	D-01	4/15/25 12:21
13C8-PFOSA	66.8	40-130	D-01	4/15/25 12:21
D3-NMeFOSA	65.0	10-130	D-01	4/15/25 12:21
D5-NEtFOSA	62.0	10-130	D-01	4/15/25 12:21
D3-NMeFOSAA	82.6	40-170	D-01	4/15/25 12:21
D5-NEtFOSAA	81.8	25-135	D-01	4/15/25 12:21
D7-NMeFOSE	57.4	10-130	D-01	4/15/25 12:21
D9-NEtFOSE	54.4	10-130	D-01	4/15/25 12:21
13C3-HFPO-DA	89.6	40-130	D-01	4/15/25 12:21

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-10 | Sampled: 4/2/2025 16:20

Sample ID: 25D0377-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorohexanesulfonic acid (PFHxS)	5.5	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanesulfonic acid (PFOS)	7.4	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-10 | Sampled: 4/2/2025 16:20

Sample ID: 25D0377-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.1	5-130		4/18/25 12:32
13C5-PFPeA	94.6	40-130		4/18/25 12:32
13C5-PFHxA	101	40-130		4/18/25 12:32
13C4-PFHpA	103	40-130		4/18/25 12:32
13C8-PFOA	94.0	40-130		4/18/25 12:32
13C9-PFNA	95.8	40-130		4/18/25 12:32
13C6-PFDA	96.8	40-130		4/18/25 12:32
13C7-PFUnA	95.7	30-130		4/18/25 12:32
13C2-PFDoA	90.3	10-130		4/18/25 12:32
13C2-PFTeDA	83.3	10-130		4/18/25 12:32
13C3-PFBS	108	40-135		4/18/25 12:32
13C3-PFHxS	104	40-130		4/18/25 12:32
13C8-PFOS	94.9	40-130		4/18/25 12:32
13C2-4:2FTS	116	40-200		4/18/25 12:32
13C2-6:2FTS	93.6	40-200		4/18/25 12:32
13C2-8:2FTS	82.2	40-300		4/18/25 12:32
13C8-PFOSA	87.8	40-130		4/18/25 12:32
D3-NMeFOSA	68.2	10-130		4/18/25 12:32
D5-NEtFOSA	67.4	10-130		4/18/25 12:32
D3-NMeFOSAA	88.9	40-170		4/18/25 12:32
D5-NEtFOSAA	85.5	25-135		4/18/25 12:32
D7-NMeFOSE	73.1	10-130		4/18/25 12:32
D9-NEtFOSE	69.9	10-130		4/18/25 12:32
13C3-HFPO-DA	99.4	40-130		4/18/25 12:32

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: FB-0425 | Sampled: 4/2/2025 16:50

Sample ID: 25D0377-04

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: FB-0425 | Sampled: 4/2/2025 16:50

Sample ID: 25D0377-04

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	67.8	5-130		4/11/25 10:39
13C5-PFPeA	68.4	40-130		4/11/25 10:39
13C5-PFHxA	67.5	40-130		4/11/25 10:39
13C4-PFHpA	66.0	40-130		4/11/25 10:39
13C8-PFOA	68.2	40-130		4/11/25 10:39
13C9-PFNA	69.2	40-130		4/11/25 10:39
13C6-PFDA	71.1	40-130		4/11/25 10:39
13C7-PFUnA	76.3	30-130		4/11/25 10:39
13C2-PFDoA	63.1	10-130		4/11/25 10:39
13C2-PFTeDA	58.8	10-130		4/11/25 10:39
13C3-PFBS	66.7	40-135		4/11/25 10:39
13C3-PFHxS	70.3	40-130		4/11/25 10:39
13C8-PFOS	63.0	40-130		4/11/25 10:39
13C2-4:2FTS	77.7	40-200		4/11/25 10:39
13C2-6:2FTS	78.4	40-200		4/11/25 10:39
13C2-8:2FTS	72.1	40-300		4/11/25 10:39
13C8-PFOSA	60.6	40-130		4/11/25 10:39
D3-NMeFOSA	55.6	10-130		4/11/25 10:39
D5-NEtFOSA	53.0	10-130		4/11/25 10:39
D3-NMeFOSAA	54.4	40-170		4/11/25 10:39
D5-NEtFOSAA	54.6	25-135		4/11/25 10:39
D7-NMeFOSE	55.6	10-130		4/11/25 10:39
D9-NEtFOSE	54.3	10-130		4/11/25 10:39
13C3-HFPO-DA	68.5	40-130		4/11/25 10:39

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-1 | Sampled: 4/3/2025 09:40

Sample ID: 25D0377-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoropentanoic acid (PFPeA)	3.2	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorohexanoic acid (PFHxA)	2.1	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanoic acid (PFOA)	3.2	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorobutanesulfonic acid (PFBS)	1.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-1 | Sampled: 4/3/2025 09:40

Sample ID: 25D0377-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	71.5	5-130		4/11/25 10:48
13C5-PFPeA	71.7	40-130		4/11/25 10:48
13C5-PFHxA	69.4	40-130		4/11/25 10:48
13C4-PFHpA	69.3	40-130		4/11/25 10:48
13C8-PFOA	68.6	40-130		4/11/25 10:48
13C9-PFNA	68.4	40-130		4/11/25 10:48
13C6-PFDA	67.8	40-130		4/11/25 10:48
13C7-PFUnA	70.1	30-130		4/11/25 10:48
13C2-PFDoA	61.0	10-130		4/11/25 10:48
13C2-PFTeDA	61.4	10-130		4/11/25 10:48
13C3-PFBS	64.9	40-135		4/11/25 10:48
13C3-PFHxS	68.1	40-130		4/11/25 10:48
13C8-PFOS	64.1	40-130		4/11/25 10:48
13C2-4:2FTS	67.1	40-200		4/11/25 10:48
13C2-6:2FTS	72.6	40-200		4/11/25 10:48
13C2-8:2FTS	67.5	40-300		4/11/25 10:48
13C8-PFOSA	61.7	40-130		4/11/25 10:48
D3-NMeFOSA	51.7	10-130		4/11/25 10:48
D5-NEtFOSA	50.1	10-130		4/11/25 10:48
D3-NMeFOSAA	55.7	40-170		4/11/25 10:48
D5-NEtFOSAA	54.5	25-135		4/11/25 10:48
D7-NMeFOSE	53.4	10-130		4/11/25 10:48
D9-NEtFOSE	52.5	10-130		4/11/25 10:48
13C3-HFPO-DA	69.9	40-130		4/11/25 10:48

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-2 | Sampled: 4/3/2025 10:30

Sample ID: 25D0377-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorohexanesulfonic acid (PFHxS)	4.4	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanesulfonic acid (PFOS)	13	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-2 | Sampled: 4/3/2025 10:30

Sample ID: 25D0377-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	58.9	5-130		4/11/25 10:57
13C5-PFPeA	59.5	40-130		4/11/25 10:57
13C5-PFHxA	57.2	40-130		4/11/25 10:57
13C4-PFHpA	56.5	40-130		4/11/25 10:57
13C8-PFOA	55.8	40-130		4/11/25 10:57
13C9-PFNA	56.1	40-130		4/11/25 10:57
13C6-PFDA	55.1	40-130		4/11/25 10:57
13C7-PFUnA	63.8	30-130		4/11/25 10:57
13C2-PFDoA	53.0	10-130		4/11/25 10:57
13C2-PFTeDA	52.4	10-130		4/11/25 10:57
13C3-PFBS	55.0	40-135		4/11/25 10:57
13C3-PFHxS	55.5	40-130		4/11/25 10:57
13C8-PFOS	55.5	40-130		4/11/25 10:57
13C2-4:2FTS	53.3	40-200		4/11/25 10:57
13C2-6:2FTS	57.0	40-200		4/11/25 10:57
13C2-8:2FTS	54.9	40-300		4/11/25 10:57
13C8-PFOSA	53.5	40-130		4/11/25 10:57
D3-NMeFOSA	46.8	10-130		4/11/25 10:57
D5-NEtFOSA	46.0	10-130		4/11/25 10:57
D3-NMeFOSAA	47.9	40-170		4/11/25 10:57
D5-NEtFOSAA	47.1	25-135		4/11/25 10:57
D7-NMeFOSE	45.7	10-130		4/11/25 10:57
D9-NEtFOSE	44.5	10-130		4/11/25 10:57
13C3-HFPO-DA	57.3	40-130		4/11/25 10:57

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 | Sampled: 4/3/2025 10:55

Sample ID: 25D0377-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoropentanoic acid (PFPeA)	5.4	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorohexanoic acid (PFHxA)	6.4	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroheptanoic acid (PFHpA)	2.2	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanoic acid (PFOA)	3.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorononanoic acid (PFNA)	2.7	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorobutanesulfonic acid (PFBS)	5.0	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoropentanesulfonic acid (PFPeS)	5.3	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorohexanesulfonic acid (PFHxS)	73	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroheptanesulfonic acid (PFHpS)	3.1	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanesulfonic acid (PFOS)	160	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 | Sampled: 4/3/2025 10:55

Sample ID: 25D0377-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	65.0	5-130		4/11/25 11:34
13C5-PFPeA	64.3	40-130		4/11/25 11:34
13C5-PFHxA	61.5	40-130		4/11/25 11:34
13C4-PFHpA	59.4	40-130		4/11/25 11:34
13C8-PFOA	60.4	40-130		4/11/25 11:34
13C9-PFNA	60.0	40-130		4/11/25 11:34
13C6-PFDA	56.2	40-130		4/11/25 11:34
13C7-PFUnA	54.9	30-130		4/11/25 11:34
13C2-PFDoA	46.6	10-130		4/11/25 11:34
13C2-PFTeDA	47.3	10-130		4/11/25 11:34
13C3-PFBS	57.6	40-135		4/11/25 11:34
13C3-PFHxS	60.7	40-130		4/11/25 11:34
13C8-PFOS	56.3	40-130		4/11/25 11:34
13C2-4:2FTS	62.9	40-200		4/11/25 11:34
13C2-6:2FTS	72.6	40-200		4/11/25 11:34
13C2-8:2FTS	64.3	40-300		4/11/25 11:34
13C8-PFOSA	54.6	40-130		4/11/25 11:34
D3-NMeFOSA	46.3	10-130		4/11/25 11:34
D5-NEtFOSA	44.5	10-130		4/11/25 11:34
D3-NMeFOSAA	43.8	40-170		4/11/25 11:34
D5-NEtFOSAA	45.3	25-135		4/11/25 11:34
D7-NMeFOSE	45.3	10-130		4/11/25 11:34
D9-NEtFOSE	43.5	10-130		4/11/25 11:34
13C3-HFPO-DA	63.0	40-130		4/11/25 11:34

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 DUP | Sampled: 4/3/2025 11:00

Sample ID: 25D0377-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoropentanoic acid (PFPeA)	5.5	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorohexanoic acid (PFHxA)	6.9	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroheptanoic acid (PFHpA)	2.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanoic acid (PFOA)	4.5	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorononanoic acid (PFNA)	3.1	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorobutanesulfonic acid (PFBS)	5.1	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoropentanesulfonic acid (PFPeS)	5.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorohexanesulfonic acid (PFHxS)	83	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroheptanesulfonic acid (PFHpS)	3.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanesulfonic acid (PFOS)	170	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
9Cl-PF3ONS (F53B Minor)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
11Cl-PF3OUdS (F53B Major)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 DUP | Sampled: 4/3/2025 11:00

Sample ID: 25D0377-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	59.2	5-130		4/11/25 11:43
13C5-PFPeA	58.1	40-130		4/11/25 11:43
13C5-PFHxA	55.9	40-130		4/11/25 11:43
13C4-PFHpA	52.3	40-130		4/11/25 11:43
13C8-PFOA	55.3	40-130		4/11/25 11:43
13C9-PFNA	53.8	40-130		4/11/25 11:43
13C6-PFDA	53.0	40-130		4/11/25 11:43
13C7-PFUnA	55.7	30-130		4/11/25 11:43
13C2-PFDoA	46.1	10-130		4/11/25 11:43
13C2-PFTeDA	46.3	10-130		4/11/25 11:43
13C3-PFBS	51.9	40-135		4/11/25 11:43
13C3-PFHxS	51.5	40-130		4/11/25 11:43
13C8-PFOS	48.4	40-130		4/11/25 11:43
13C2-4:2FTS	52.5	40-200		4/11/25 11:43
13C2-6:2FTS	56.4	40-200		4/11/25 11:43
13C2-8:2FTS	54.3	40-300		4/11/25 11:43
13C8-PFOSA	50.6	40-130		4/11/25 11:43
D3-NMeFOSA	44.3	10-130		4/11/25 11:43
D5-NEtFOSA	43.2	10-130		4/11/25 11:43
D3-NMeFOSAA	40.0	40-170		4/11/25 11:43
D5-NEtFOSAA	38.6	25-135		4/11/25 11:43
D7-NMeFOSE	44.6	10-130		4/11/25 11:43
D9-NEtFOSE	43.0	10-130		4/11/25 11:43
13C3-HFPO-DA	57.3	40-130		4/11/25 11:43

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-7 | Sampled: 4/3/2025 11:25

Sample ID: 25D0377-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorohexanoic acid (PFHxA)	4.8	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroheptanoic acid (PFHpA)	1.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanoic acid (PFOA)	5.5	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorobutanesulfonic acid (PFBS)	6.5	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoropentanesulfonic acid (PFPeS)	10	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorohexanesulfonic acid (PFHxS)	120	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroheptanesulfonic acid (PFHpS)	6.0	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanesulfonic acid (PFOS)	290	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-7 | Sampled: 4/3/2025 11:25

Sample ID: 25D0377-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	62.4	5-130		4/11/25 11:52
13C5-PFPeA	64.7	40-130		4/11/25 11:52
13C5-PFHxA	60.9	40-130		4/11/25 11:52
13C4-PFHpA	59.9	40-130		4/11/25 11:52
13C8-PFOA	64.2	40-130		4/11/25 11:52
13C9-PFNA	57.8	40-130		4/11/25 11:52
13C6-PFDA	60.0	40-130		4/11/25 11:52
13C7-PFUnA	66.2	30-130		4/11/25 11:52
13C2-PFDoA	57.7	10-130		4/11/25 11:52
13C2-PFTeDA	53.8	10-130		4/11/25 11:52
13C3-PFBS	60.0	40-135		4/11/25 11:52
13C3-PFHxS	61.9	40-130		4/11/25 11:52
13C8-PFOS	60.7	40-130		4/11/25 11:52
13C2-4:2FTS	64.4	40-200		4/11/25 11:52
13C2-6:2FTS	65.0	40-200		4/11/25 11:52
13C2-8:2FTS	64.2	40-300		4/11/25 11:52
13C8-PFOSA	59.0	40-130		4/11/25 11:52
D3-NMeFOSA	49.9	10-130		4/11/25 11:52
D5-NEtFOSA	49.7	10-130		4/11/25 11:52
D3-NMeFOSAA	43.8	40-170		4/11/25 11:52
D5-NEtFOSAA	43.9	25-135		4/11/25 11:52
D7-NMeFOSE	51.5	10-130		4/11/25 11:52
D9-NEtFOSE	50.2	10-130		4/11/25 11:52
13C3-HFPO-DA	62.5	40-130		4/11/25 11:52

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: EB-02-0425 | Sampled: 4/3/2025 11:50

Sample ID: 25D0377-10

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: EB-02-0425 | Sampled: 4/3/2025 11:50

Sample ID: 25D0377-10

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	66.7	5-130		4/11/25 12:01
13C5-PFPeA	67.5	40-130		4/11/25 12:01
13C5-PFHxA	67.3	40-130		4/11/25 12:01
13C4-PFHpA	62.9	40-130		4/11/25 12:01
13C8-PFOA	68.3	40-130		4/11/25 12:01
13C9-PFNA	67.0	40-130		4/11/25 12:01
13C6-PFDA	64.3	40-130		4/11/25 12:01
13C7-PFUnA	65.6	30-130		4/11/25 12:01
13C2-PFDoA	58.7	10-130		4/11/25 12:01
13C2-PFTeDA	58.9	10-130		4/11/25 12:01
13C3-PFBS	66.4	40-135		4/11/25 12:01
13C3-PFHxS	69.2	40-130		4/11/25 12:01
13C8-PFOS	64.9	40-130		4/11/25 12:01
13C2-4:2FTS	79.8	40-200		4/11/25 12:01
13C2-6:2FTS	76.4	40-200		4/11/25 12:01
13C2-8:2FTS	71.4	40-300		4/11/25 12:01
13C8-PFOSA	58.8	40-130		4/11/25 12:01
D3-NMeFOSA	47.8	10-130		4/11/25 12:01
D5-NEtFOSA	48.5	10-130		4/11/25 12:01
D3-NMeFOSAA	55.5	40-170		4/11/25 12:01
D5-NEtFOSAA	55.5	25-135		4/11/25 12:01
D7-NMeFOSE	54.0	10-130		4/11/25 12:01
D9-NEtFOSE	53.5	10-130		4/11/25 12:01
13C3-HFPO-DA	65.3	40-130		4/11/25 12:01

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-AQ-0425 | Sampled: 4/3/2025 12:30

Sample ID: 25D0377-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.3	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoropentanoic acid (PFPeA)	13	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorohexanoic acid (PFHxA)	20	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroheptanoic acid (PFHpA)	8.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanoic acid (PFOA)	13	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorononanoic acid (PFNA)	12	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorobutanesulfonic acid (PFBS)	8.8	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoropentanesulfonic acid (PFPeS)	11	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorohexanesulfonic acid (PFHxS)	220	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroheptanesulfonic acid (PFHpS)	10	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanesulfonic acid (PFOS)	1400	16	ng/L	10	D	EPA 1633	4/10/25	4/14/25 17:31	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-AQ-0425 | Sampled: 4/3/2025 12:30

Sample ID: 25D0377-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	64.5	5-130		4/11/25 12:11
13C5-PFPeA	64.7	40-130		4/11/25 12:11
13C5-PFHxA	63.4	40-130		4/11/25 12:11
13C4-PFHpA	59.8	40-130		4/11/25 12:11
13C8-PFOA	66.0	40-130		4/11/25 12:11
13C9-PFNA	63.7	40-130		4/11/25 12:11
13C6-PFDA	61.6	40-130		4/11/25 12:11
13C7-PFUnA	68.7	30-130		4/11/25 12:11
13C2-PFDoA	63.1	10-130		4/11/25 12:11
13C2-PFTeDA	54.3	10-130		4/11/25 12:11
13C3-PFBS	61.0	40-135		4/11/25 12:11
13C3-PFHxS	63.8	40-130		4/11/25 12:11
13C8-PFOS	64.1	40-130		4/11/25 12:11
13C8-PFOS	46.4	40-130		4/14/25 17:31
13C2-4:2FTS	72.0	40-200		4/11/25 12:11
13C2-6:2FTS	66.3	40-200		4/11/25 12:11
13C2-8:2FTS	65.6	40-300		4/11/25 12:11
13C8-PFOSA	64.1	40-130		4/11/25 12:11
D3-NMeFOSA	48.0	10-130		4/11/25 12:11
D5-NEtFOSA	44.4	10-130		4/11/25 12:11
D3-NMeFOSAA	55.0	40-170		4/11/25 12:11
D5-NEtFOSAA	59.7	25-135		4/11/25 12:11
D7-NMeFOSE	58.1	10-130		4/11/25 12:11
D9-NEtFOSE	57.3	10-130		4/11/25 12:11
13C3-HFPO-DA	60.0	40-130		4/11/25 12:11

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorohexanesulfonic acid (PFHxS)	0.24	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanesulfonic acid (PFOS)	6.0	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	69.0	8-130		4/9/25 19:14
13C5-PFPeA	75.9	35-130		4/9/25 19:14
13C5-PFHxA	74.6	40-130		4/9/25 19:14
13C4-PFHpA	71.2	40-130		4/9/25 19:14
13C8-PFOA	72.3	40-130		4/9/25 19:14
13C9-PFNA	74.1	40-130		4/9/25 19:14
13C6-PFDA	76.2	40-130		4/9/25 19:14
13C7-PFUnA	81.4	40-130		4/9/25 19:14
13C2-PFDoA	77.0	40-130		4/9/25 19:14
13C2-PFTeDA	76.2	20-130		4/9/25 19:14
13C3-PFBS	71.7	40-135		4/9/25 19:14
13C3-PFHxS	72.4	40-130		4/9/25 19:14
13C8-PFOS	73.1	40-130		4/9/25 19:14
13C2-4:2FTS	73.8	40-165		4/9/25 19:14
13C2-6:2FTS	76.8	40-215		4/9/25 19:14
13C2-8:2FTS	71.0	40-275		4/9/25 19:14
13C8-PFOSA	71.9	40-130		4/9/25 19:14
D3-NMeFOSA	64.0	10-130		4/9/25 19:14
D5-NEtFOSA	62.2	10-130		4/9/25 19:14
D3-NMeFOSAA	71.2	40-135		4/9/25 19:14
D5-NEtFOSAA	69.5	40-150		4/9/25 19:14
D7-NMeFOSE	71.1	20-130		4/9/25 19:14
D9-NEtFOSE	71.0	15-130		4/9/25 19:14
13C3-HFPO-DA	75.4	40-130		4/9/25 19:14

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	4/6/25	4/6/25 9:55	ANR

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
25D0377-12 [IDW-SOIL-0425]	B402522	5.87	4.00	04/09/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-04 [FB-0425]	B402520	492	4.00	04/10/25
25D0377-05 [PW-1]	B402520	515	4.00	04/10/25
25D0377-06 [PW-2]	B402520	482	4.00	04/10/25
25D0377-07 [PW-6]	B402520	502	4.00	04/10/25
25D0377-08 [PW-6 DUP]	B402520	475	4.00	04/10/25
25D0377-09 [PW-7]	B402520	505	4.00	04/10/25
25D0377-10 [EB-02-0425]	B402520	498	4.00	04/10/25
25D0377-11 [IDW-AQ-0425]	B402520	499	4.00	04/10/25
25D0377-11RE1 [IDW-AQ-0425]	B402520	499	4.00	04/10/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-03RE1 [BMW-10]	B402610	494	4.00	04/17/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-01RE1 [BMW-2]	B402935	25.0	4.00	04/14/25
25D0377-02RE1 [BMW-3]	B402935	5.00	4.00	04/14/25

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
25D0377-12 [IDW-SOIL-0425]	B402384	04/06/25

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Blank (B402520-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*58.2*		ng/L	78.21		74.4	5-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Blank (B402520-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C5-PFPeA	*29.7*		ng/L	39.10		75.9	40-130			
Surrogate: 13C5-PFHxA	*14.1*		ng/L	19.55		72.1	40-130			
Surrogate: 13C4-PFHpA	*13.4*		ng/L	19.55		68.4	40-130			
Surrogate: 13C8-PFOA	*14.1*		ng/L	19.55		72.2	40-130			
Surrogate: 13C9-PFNA	*6.68*		ng/L	9.776		68.4	40-130			
Surrogate: 13C6-PFDA	*6.67*		ng/L	9.776		68.3	40-130			
Surrogate: 13C7-PFUnA	*6.91*		ng/L	9.776		70.7	30-130			
Surrogate: 13C2-PFDoA	*6.12*		ng/L	9.776		62.6	10-130			
Surrogate: 13C2-PFTeDA	*6.27*		ng/L	9.776		64.1	10-130			
Surrogate: 13C3-PFBS	*12.9*		ng/L	19.55		65.8	40-135			
Surrogate: 13C3-PFHxS	*13.5*		ng/L	19.55		69.1	40-130			
Surrogate: 13C8-PFOS	*13.4*		ng/L	19.55		68.4	40-130			
Surrogate: 13C2-4:2FTS	*29.0*		ng/L	39.10		74.2	40-200			
Surrogate: 13C2-6:2FTS	*27.7*		ng/L	39.10		70.7	40-200			
Surrogate: 13C2-8:2FTS	*25.3*		ng/L	39.10		64.8	40-300			
Surrogate: 13C8-PFOSA	*12.6*		ng/L	19.55		64.4	40-130			
Surrogate: D3-NMeFOSA	*11.4*		ng/L	19.55		58.4	10-130			
Surrogate: D5-NEtFOSA	*11.1*		ng/L	19.55		56.6	10-130			
Surrogate: D3-NMeFOSAA	*23.7*		ng/L	39.10		60.6	40-170			
Surrogate: D5-NEtFOSAA	*23.4*		ng/L	39.10		60.0	25-135			
Surrogate: D7-NMeFOSE	*124*		ng/L	195.5		63.2	10-130			
Surrogate: D9-NEtFOSE	*122*		ng/L	195.5		62.2	10-130			
Surrogate: 13C3-HFPO-DA	*57.5*		ng/L	78.21		73.6	40-130			
LCS (B402520-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	81.6	6.2	ng/L	77.32		106	70-140			
Perfluoropentanoic acid (PFPeA)	40.5	3.1	ng/L	38.66		105	65-135			
Perfluorohexanoic acid (PFHxA)	20.4	1.5	ng/L	19.33		106	70-145			
Perfluoroheptanoic acid (PFHpA)	20.5	1.5	ng/L	19.33		106	70-150			
Perfluorooctanoic acid (PFOA)	18.5	1.5	ng/L	19.33		95.9	70-150			
Perfluorononanoic acid (PFNA)	20.4	1.5	ng/L	19.33		106	70-150			
Perfluorodecanoic acid (PFDA)	20.1	1.5	ng/L	19.33		104	70-140			
Perfluoroundecanoic acid (PFUnA)	21.0	1.5	ng/L	19.33		109	70-145			
Perfluorododecanoic acid (PFDoA)	21.9	1.5	ng/L	19.33		113	70-140			
Perfluorotridecanoic acid (PFTrDA)	21.4	1.5	ng/L	19.33		111	65-140			
Perfluorotetradecanoic acid (PFTeDA)	21.6	1.5	ng/L	19.33		112	60-140			
Perfluorobutanesulfonic acid (PFBS)	18.8	1.5	ng/L	17.17		110	60-145			
Perfluoropentanesulfonic acid (PFPeS)	19.0	1.5	ng/L	18.17		104	65-140			
Perfluorohexanesulfonic acid (PFHxS)	17.4	1.5	ng/L	17.63		98.9	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	20.5	1.5	ng/L	18.40		111	70-150			
Perfluorooctanesulfonic acid (PFOS)	18.6	1.5	ng/L	17.94		103	55-150			
Perfluorononanesulfonic acid (PFNS)	18.9	1.5	ng/L	18.56		102	65-145			
Perfluorodecanesulfonic acid (PFDS)	18.5	1.5	ng/L	18.63		99.1	60-145			
Perfluorododecanesulfonic acid (PFDoS)	17.5	1.5	ng/L	18.71		93.7	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	81.3	6.2	ng/L	72.45		112	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	85.0	6.2	ng/L	73.53		116	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	86.1	6.2	ng/L	74.23		116	60-150			
Perfluorooctanesulfonamide (PFOSA)	20.0	1.5	ng/L	19.33		103	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.0	1.5	ng/L	19.33		109	60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
LCS (B402520-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	20.0	1.5	ng/L	19.33		103	65-145			
N-MeFOSAA (NMeFOSAA)	18.8	1.5	ng/L	19.33		97.4	50-140			
N-EtFOSAA (NEtFOSAA)	18.9	1.5	ng/L	19.33		97.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	206	15	ng/L	193.3		107	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	213	15	ng/L	193.3		110	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	85.6	6.2	ng/L	77.32		111	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	83.1	6.2	ng/L	73.07		114	65-145			
9Cl-PF3ONS (F53B Minor)	76.1	6.2	ng/L	72.14		105	70-155			
11Cl-PF3OUdS (F53B Major)	74.8	6.2	ng/L	71.91		104	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	102	7.7	ng/L	96.65		106	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	546	39	ng/L	483.3		113	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	516	39	ng/L	483.3		107	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	39.8	3.1	ng/L	34.49		115	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	41.3	3.1	ng/L	38.66		107	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	3.1	ng/L	38.66		104	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	39.9	3.1	ng/L	38.66		103	50-150			
Surrogate: 13C4-PFBA	*61.7*		ng/L	77.32		79.8	5-130			
Surrogate: 13C5-PFPeA	*32.2*		ng/L	38.66		83.4	40-130			
Surrogate: 13C5-PFHxA	*15.5*		ng/L	19.33		80.3	40-130			
Surrogate: 13C4-PFHpA	*14.6*		ng/L	19.33		75.6	40-130			
Surrogate: 13C8-PFOA	*14.9*		ng/L	19.33		76.9	40-130			
Surrogate: 13C9-PFNA	*7.75*		ng/L	9.665		80.2	40-130			
Surrogate: 13C6-PFDA	*7.84*		ng/L	9.665		81.1	40-130			
Surrogate: 13C7-PFUnA	*7.50*		ng/L	9.665		77.6	30-130			
Surrogate: 13C2-PFDoA	*6.79*		ng/L	9.665		70.3	10-130			
Surrogate: 13C2-PFTeDA	*6.57*		ng/L	9.665		68.0	10-130			
Surrogate: 13C3-PFBS	*14.9*		ng/L	19.33		77.0	40-135			
Surrogate: 13C3-PFHxS	*16.1*		ng/L	19.33		83.2	40-130			
Surrogate: 13C8-PFOS	*15.9*		ng/L	19.33		82.2	40-130			
Surrogate: 13C2-4:2FTS	*31.4*		ng/L	38.66		81.3	40-200			
Surrogate: 13C2-6:2FTS	*31.8*		ng/L	38.66		82.1	40-200			
Surrogate: 13C2-8:2FTS	*28.3*		ng/L	38.66		73.3	40-300			
Surrogate: 13C8-PFOSA	*14.4*		ng/L	19.33		74.4	40-130			
Surrogate: D3-NMeFOSA	*13.5*		ng/L	19.33		69.6	10-130			
Surrogate: D5-NEtFOSA	*14.0*		ng/L	19.33		72.3	10-130			
Surrogate: D3-NMeFOSAA	*29.0*		ng/L	38.66		75.1	40-170			
Surrogate: D5-NEtFOSAA	*29.1*		ng/L	38.66		75.4	25-135			
Surrogate: D7-NMeFOSE	*139*		ng/L	193.3		72.0	10-130			
Surrogate: D9-NEtFOSE	*135*		ng/L	193.3		70.0	10-130			
Surrogate: 13C3-HFPO-DA	*62.0*		ng/L	77.32		80.1	40-130			
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	13.2	6.3	ng/L	12.62		105	70-140			
Perfluoropentanoic acid (PFPeA)	6.70	3.2	ng/L	6.310		106	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorohexanoic acid (PFHxA)	3.39	1.6	ng/L	3.155		107	70-145			
Perfluoroheptanoic acid (PFHpA)	3.29	1.6	ng/L	3.155		104	70-150			
Perfluorooctanoic acid (PFOA)	3.04	1.6	ng/L	3.155		96.4	70-150			
Perfluorononanoic acid (PFNA)	3.24	1.6	ng/L	3.155		103	70-150			
Perfluorodecanoic acid (PFDA)	3.31	1.6	ng/L	3.155		105	70-140			
Perfluoroundecanoic acid (PFUnA)	3.32	1.6	ng/L	3.155		105	70-145			
Perfluorododecanoic acid (PFDoA)	3.37	1.6	ng/L	3.155		107	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.91	1.6	ng/L	3.155		92.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	3.39	1.6	ng/L	3.155		108	60-140			
Perfluorobutanesulfonic acid (PFBS)	3.08	1.6	ng/L	2.802		110	60-145			
Perfluoropentanesulfonic acid (PFPeS)	3.15	1.6	ng/L	2.966		106	65-140			
Perfluorohexanesulfonic acid (PFHxS)	3.21	1.6	ng/L	2.878		111	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	3.38	1.6	ng/L	3.004		112	70-150			
Perfluorooctanesulfonic acid (PFOS)	3.30	1.6	ng/L	2.928		113	55-150			
Perfluorononanesulfonic acid (PFNS)	3.13	1.6	ng/L	3.029		103	65-145			
Perfluorodecanesulfonic acid (PFDS)	3.16	1.6	ng/L	3.042		104	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.93	1.6	ng/L	3.054		95.9	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	12.4	6.3	ng/L	11.83		105	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	13.4	6.3	ng/L	12.00		112	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	15.0	6.3	ng/L	12.12		124	60-150			
Perfluorooctanesulfonamide (PFOSA)	3.29	1.6	ng/L	3.155		104	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.52	1.6	ng/L	3.155		111	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	3.36	1.6	ng/L	3.155		106	65-145			
N-MeFOSAA (NMeFOSAA)	3.36	1.6	ng/L	3.155		106	50-140			
N-EtFOSAA (NEtFOSAA)	3.40	1.6	ng/L	3.155		108	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	32.2	16	ng/L	31.55		102	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	33.8	16	ng/L	31.55		107	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.9	6.3	ng/L	12.62		102	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	13.8	6.3	ng/L	11.93		115	65-145			
9Cl-PF3ONS (F53B Minor)	12.8	6.3	ng/L	11.78		109	70-155			
11Cl-PF3OUdS (F53B Major)	12.8	6.3	ng/L	11.74		109	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	16.1	7.9	ng/L	15.78		102	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	91.6	39	ng/L	78.88		116	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	80.8	39	ng/L	78.88		102	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	6.55	3.2	ng/L	5.629		116	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.68	3.2	ng/L	6.310		106	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.34	3.2	ng/L	6.310		100	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.70	3.2	ng/L	6.310		106	50-150			
Surrogate: 13C4-PFBA	*57.2*		ng/L	78.88		72.6	5-130			
Surrogate: 13C5-PFPeA	*29.0*		ng/L	39.44		73.5	40-130			
Surrogate: 13C5-PFHxA	*13.9*		ng/L	19.72		70.2	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C4-PFHpA	*13.1*		ng/L	19.72		66.2	40-130			
Surrogate: 13C8-PFOA	*13.8*		ng/L	19.72		70.2	40-130			
Surrogate: 13C9-PFNA	*7.28*		ng/L	9.860		73.9	40-130			
Surrogate: 13C6-PFDA	*7.21*		ng/L	9.860		73.1	40-130			
Surrogate: 13C7-PFUnA	*7.37*		ng/L	9.860		74.8	30-130			
Surrogate: 13C2-PFDoA	*6.65*		ng/L	9.860		67.5	10-130			
Surrogate: 13C2-PFTeDA	*6.44*		ng/L	9.860		65.4	10-130			
Surrogate: 13C3-PFBS	*13.3*		ng/L	19.72		67.3	40-135			
Surrogate: 13C3-PFHxS	*13.6*		ng/L	19.72		68.7	40-130			
Surrogate: 13C8-PFOS	*13.8*		ng/L	19.72		70.0	40-130			
Surrogate: 13C2-4:2FTS	*32.0*		ng/L	39.44		81.2	40-200			
Surrogate: 13C2-6:2FTS	*30.1*		ng/L	39.44		76.2	40-200			
Surrogate: 13C2-8:2FTS	*26.0*		ng/L	39.44		66.0	40-300			
Surrogate: 13C8-PFOSA	*12.7*		ng/L	19.72		64.6	40-130			
Surrogate: D3-NMeFOSA	*11.3*		ng/L	19.72		57.4	10-130			
Surrogate: D5-NEtFOSA	*11.1*		ng/L	19.72		56.1	10-130			
Surrogate: D3-NMeFOSAA	*25.5*		ng/L	39.44		64.6	40-170			
Surrogate: D5-NEtFOSAA	*24.9*		ng/L	39.44		63.1	25-135			
Surrogate: D7-NMeFOSE	*125*		ng/L	197.2		63.2	10-130			
Surrogate: D9-NEtFOSE	*122*		ng/L	197.2		61.8	10-130			
Surrogate: 13C3-HFPO-DA	*54.1*		ng/L	78.88		68.6	40-130			
Matrix Spike (B402520-MS2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	92.1	6.9	ng/L	86.01	2.27	104	70-140			
Perfluoropentanoic acid (PFPeA)	48.7	3.4	ng/L	43.01	3.23	106	65-135			
Perfluorohexanoic acid (PFHxA)	25.3	1.7	ng/L	21.50	2.10	108	70-145			
Perfluoroheptanoic acid (PFHpA)	23.7	1.7	ng/L	21.50	0.930	106	70-150			
Perfluorooctanoic acid (PFOA)	23.2	1.7	ng/L	21.50	3.15	93.3	70-150			
Perfluorononanoic acid (PFNA)	22.6	1.7	ng/L	21.50	ND	105	70-150			
Perfluorodecanoic acid (PFDA)	21.7	1.7	ng/L	21.50	ND	101	70-140			
Perfluoroundecanoic acid (PFUnA)	22.8	1.7	ng/L	21.50	ND	106	70-145			
Perfluorododecanoic acid (PFDoA)	23.1	1.7	ng/L	21.50	ND	108	70-140			
Perfluorotridecanoic acid (PFTrDA)	23.4	1.7	ng/L	21.50	ND	109	65-140			
Perfluorotetradecanoic acid (PFTeDA)	24.8	1.7	ng/L	21.50	ND	115	60-140			
Perfluorobutanesulfonic acid (PFBS)	22.8	1.7	ng/L	19.09	1.94	109	60-145			
Perfluoropentanesulfonic acid (PFPeS)	21.1	1.7	ng/L	20.21	ND	104	65-140			
Perfluorohexanesulfonic acid (PFHxS)	21.9	1.7	ng/L	19.61	1.46	104	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	23.1	1.7	ng/L	20.47	ND	113	70-150			
Perfluorooctanesulfonic acid (PFOS)	21.1	1.7	ng/L	19.95	1.10	100	55-150			
Perfluorononanesulfonic acid (PFNS)	19.9	1.7	ng/L	20.64	ND	96.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	20.2	1.7	ng/L	20.73	ND	97.5	60-145			
Perfluorododecanesulfonic acid (PFDoS)	20.1	1.7	ng/L	20.81	ND	96.8	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	90.7	6.9	ng/L	80.59	ND	113	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	98.0	6.9	ng/L	81.80	ND	120	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	92.2	6.9	ng/L	82.57	ND	112	60-150			
Perfluorooctanesulfonamide (PFOSA)	23.2	1.7	ng/L	21.50	ND	108	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.7	1.7	ng/L	21.50	ND	101	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	22.0	1.7	ng/L	21.50	ND	102	65-145			
N-MeFOSAA (NMeFOSAA)	22.1	1.7	ng/L	21.50	ND	103	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike (B402520-MS2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
N-EtFOSAA (NEtFOSAA)	22.2	1.7	ng/L	21.50	ND	103	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	227	17	ng/L	215.0	ND	106	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	229	17	ng/L	215.0	ND	106	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.4	6.9	ng/L	86.01	ND	112	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	91.2	6.9	ng/L	81.28	ND	112	65-145			
9Cl-PF3ONS (F53B Minor)	83.9	6.9	ng/L	80.25	ND	105	70-155			
11Cl-PF3OUdS (F53B Major)	84.3	6.9	ng/L	79.99	ND	105	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	111	8.6	ng/L	107.5	ND	103	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	611	43	ng/L	537.6	ND	114	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	575	43	ng/L	537.6	ND	107	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	43.5	3.4	ng/L	38.36	ND	113	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	47.8	3.4	ng/L	43.01	ND	111	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	44.7	3.4	ng/L	43.01	ND	104	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	43.0	3.4	ng/L	43.01	ND	100	50-150			
Surrogate: 13C4-PFBA	*62.4*		ng/L	86.01		72.5	5-130			
Surrogate: 13C5-PFPeA	*32.3*		ng/L	43.01		75.1	40-130			
Surrogate: 13C5-PFHxA	*15.8*		ng/L	21.50		73.4	40-130			
Surrogate: 13C4-PFHpA	*15.4*		ng/L	21.50		71.6	40-130			
Surrogate: 13C8-PFOA	*15.6*		ng/L	21.50		72.6	40-130			
Surrogate: 13C9-PFNA	*7.85*		ng/L	10.75		73.1	40-130			
Surrogate: 13C6-PFDA	*7.50*		ng/L	10.75		69.7	40-130			
Surrogate: 13C7-PFUnA	*7.71*		ng/L	10.75		71.7	30-130			
Surrogate: 13C2-PFDoA	*6.80*		ng/L	10.75		63.3	10-130			
Surrogate: 13C2-PFTeDA	*6.47*		ng/L	10.75		60.2	10-130			
Surrogate: 13C3-PFBS	*14.8*		ng/L	21.50		68.8	40-135			
Surrogate: 13C3-PFHxS	*15.9*		ng/L	21.50		73.8	40-130			
Surrogate: 13C8-PFOS	*14.9*		ng/L	21.50		69.4	40-130			
Surrogate: 13C2-4:2FTS	*28.1*		ng/L	43.01		65.4	40-200			
Surrogate: 13C2-6:2FTS	*29.9*		ng/L	43.01		69.6	40-200			
Surrogate: 13C2-8:2FTS	*29.5*		ng/L	43.01		68.6	40-300			
Surrogate: 13C8-PFOSA	*14.3*		ng/L	21.50		66.3	40-130			
Surrogate: D3-NMeFOSA	*11.6*		ng/L	21.50		54.0	10-130			
Surrogate: D5-NEtFOSA	*11.8*		ng/L	21.50		54.7	10-130			
Surrogate: D3-NMeFOSAA	*25.0*		ng/L	43.01		58.2	40-170			
Surrogate: D5-NEtFOSAA	*26.4*		ng/L	43.01		61.5	25-135			
Surrogate: D7-NMeFOSE	*131*		ng/L	215.0		61.1	10-130			
Surrogate: D9-NEtFOSE	*129*		ng/L	215.0		59.8	10-130			
Surrogate: 13C3-HFPO-DA	*60.7*		ng/L	86.01		70.6	40-130			
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	89.1	6.5	ng/L	80.77	2.27	107	70-140	3.40	25	
Perfluoropentanoic acid (PFPeA)	47.4	3.2	ng/L	40.38	3.23	109	65-135	2.72	25	
Perfluorohexanoic acid (PFHxA)	24.8	1.6	ng/L	20.19	2.10	112	70-145	2.10	25	
Perfluoroheptanoic acid (PFHpA)	22.8	1.6	ng/L	20.19	0.930	109	70-150	3.58	25	
Perfluorooctanoic acid (PFOA)	23.7	1.6	ng/L	20.19	3.15	102	70-150	2.20	25	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorononanoic acid (PFNA)	22.7	1.6	ng/L	20.19	ND	112	70-150	0.0991	25	
Perfluorodecanoic acid (PFDA)	22.3	1.6	ng/L	20.19	ND	111	70-140	2.75	25	
Perfluoroundecanoic acid (PFUnA)	22.4	1.6	ng/L	20.19	ND	111	70-145	1.79	25	
Perfluorododecanoic acid (PFDoA)	23.9	1.6	ng/L	20.19	ND	118	70-140	3.37	25	
Perfluorotridecanoic acid (PFTrDA)	25.3	1.6	ng/L	20.19	ND	125	65-140	7.75	25	
Perfluorotetradecanoic acid (PFTeDA)	22.5	1.6	ng/L	20.19	ND	112	60-140	9.51	25	
Perfluorobutanesulfonic acid (PFBS)	22.6	1.6	ng/L	17.93	1.94	115	60-145	0.608	25	
Perfluoropentanesulfonic acid (PFPeS)	21.1	1.6	ng/L	18.98	ND	111	65-140	0.0919	25	
Perfluorohexanesulfonic acid (PFHxS)	20.3	1.6	ng/L	18.42	1.46	102	65-145	7.56	25	
Perfluoroheptanesulfonic acid (PFHpS)	24.6	1.6	ng/L	19.22	ND	128	70-150	6.58	25	
Perfluorooctanesulfonic acid (PFOS)	23.4	1.6	ng/L	18.74	1.10	119	55-150	10.3	25	
Perfluorononanesulfonic acid (PFNS)	22.4	1.6	ng/L	19.38	ND	116	65-145	11.6	25	
Perfluorodecanesulfonic acid (PFDS)	20.9	1.6	ng/L	19.47	ND	107	60-145	3.18	25	
Perfluorododecanesulfonic acid (PFDoS)	22.4	1.6	ng/L	19.55	ND	115	50-145	10.7	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	89.0	6.5	ng/L	75.68	ND	118	70-145	1.90	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	92.9	6.5	ng/L	76.81	ND	121	65-155	5.39	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	94.6	6.5	ng/L	77.54	ND	122	60-150	2.56	25	
Perfluorooctanesulfonamide (PFOSA)	22.3	1.6	ng/L	20.19	ND	110	70-145	3.91	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.3	1.6	ng/L	20.19	ND	106	60-150	1.61	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	20.4	1.6	ng/L	20.19	ND	101	65-145	7.53	25	
N-MeFOSAA (NMeFOSAA)	20.9	1.6	ng/L	20.19	ND	103	50-140	5.67	25	
N-EtFOSAA (NEtFOSAA)	20.7	1.6	ng/L	20.19	ND	103	70-145	6.88	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	228	16	ng/L	201.9	ND	113	70-145	0.331	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	229	16	ng/L	201.9	ND	113	70-135	0.122	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.6	6.5	ng/L	80.77	ND	120	70-140	0.214	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	87.1	6.5	ng/L	76.33	ND	114	65-145	4.69	25	
9Cl-PF3ONS (F53B Minor)	90.7	6.5	ng/L	75.36	ND	120	70-155	7.79	25	
11Cl-PF3OUdS (F53B Major)	88.7	6.5	ng/L	75.12	ND	118	55-160	5.19	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	106	8.1	ng/L	101.0	ND	105	65-130	4.45	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	614	40	ng/L	504.8	ND	122	70-135	0.427	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	580	40	ng/L	504.8	ND	115	50-145	0.856	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	43.2	3.2	ng/L	36.02	ND	120	70-140	0.586	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	44.6	3.2	ng/L	40.38	ND	110	55-140	6.88	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.9	3.2	ng/L	40.38	ND	109	60-150	1.64	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	39.4	3.2	ng/L	40.38	ND	97.4	50-150	8.95	25	
Surrogate: 13C4-PFBA	*48.3*		ng/L	80.77		59.8	5-130			
Surrogate: 13C5-PFPeA	*24.7*		ng/L	40.38		61.2	40-130			
Surrogate: 13C5-PFHxA	*12.4*		ng/L	20.19		61.5	40-130			
Surrogate: 13C4-PFHpA	*12.4*		ng/L	20.19		61.2	40-130			
Surrogate: 13C8-PFOA	*12.7*		ng/L	20.19		62.8	40-130			
Surrogate: 13C9-PFNA	*6.23*		ng/L	10.10		61.7	40-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C6-PFDA	*6.25*		ng/L	10.10		61.9	40-130			
Surrogate: 13C7-PFUnA	*6.65*		ng/L	10.10		65.8	30-130			
Surrogate: 13C2-PFDoA	*5.58*		ng/L	10.10		55.3	10-130			
Surrogate: 13C2-PFTeDA	*6.02*		ng/L	10.10		59.6	10-130			
Surrogate: 13C3-PFBS	*13.0*		ng/L	20.19		64.1	40-135			
Surrogate: 13C3-PFHxS	*14.1*		ng/L	20.19		69.7	40-130			
Surrogate: 13C8-PFOS	*12.5*		ng/L	20.19		62.1	40-130			
Surrogate: 13C2-4:2FTS	*24.1*		ng/L	40.38		59.7	40-200			
Surrogate: 13C2-6:2FTS	*26.6*		ng/L	40.38		65.9	40-200			
Surrogate: 13C2-8:2FTS	*26.5*		ng/L	40.38		65.6	40-300			
Surrogate: 13C8-PFOSA	*12.5*		ng/L	20.19		62.1	40-130			
Surrogate: D3-NMeFOSA	*11.6*		ng/L	20.19		57.3	10-130			
Surrogate: D5-NEtFOSA	*11.7*		ng/L	20.19		58.2	10-130			
Surrogate: D3-NMeFOSAA	*23.5*		ng/L	40.38		58.1	40-170			
Surrogate: D5-NEtFOSAA	*22.9*		ng/L	40.38		56.7	25-135			
Surrogate: D7-NMeFOSE	*115*		ng/L	201.9		56.9	10-130			
Surrogate: D9-NEtFOSE	*114*		ng/L	201.9		56.6	10-130			
Surrogate: 13C3-HFPO-DA	*49.1*		ng/L	80.77		60.8	40-130			
Batch B402522 - EPA 1633										
Blank (B402522-BLK1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
Blank (B402522-BLK1)				Prepared & Analyzed: 04/09/25						
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.99	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	*4.89*		µg/kg wet	7.893		61.9	8-130			
Surrogate: 13C5-PFPeA	*2.84*		µg/kg wet	3.946		72.0	35-130			
Surrogate: 13C5-PFHxA	*1.37*		µg/kg wet	1.973		69.6	40-130			
Surrogate: 13C4-PFHpA	*1.32*		µg/kg wet	1.973		66.8	40-130			
Surrogate: 13C8-PFOA	*1.37*		µg/kg wet	1.973		69.7	40-130			
Surrogate: 13C9-PFNA	*0.692*		µg/kg wet	0.9866		70.2	40-130			
Surrogate: 13C6-PFDA	*0.702*		µg/kg wet	0.9866		71.2	40-130			
Surrogate: 13C7-PFUnA	*0.730*		µg/kg wet	0.9866		73.9	40-130			
Surrogate: 13C2-PFDoA	*0.682*		µg/kg wet	0.9866		69.1	40-130			
Surrogate: 13C2-PFTeDA	*0.655*		µg/kg wet	0.9866		66.4	20-130			
Surrogate: 13C3-PFBS	*1.32*		µg/kg wet	1.973		66.7	40-135			
Surrogate: 13C3-PFHxS	*1.33*		µg/kg wet	1.973		67.4	40-130			
Surrogate: 13C8-PFOS	*1.37*		µg/kg wet	1.973		69.6	40-130			
Surrogate: 13C2-4:2FTS	*2.97*		µg/kg wet	3.946		75.3	40-165			
Surrogate: 13C2-6:2FTS	*3.02*		µg/kg wet	3.946		76.7	40-215			
Surrogate: 13C2-8:2FTS	*2.85*		µg/kg wet	3.946		72.3	40-275			
Surrogate: 13C8-PFOSA	*1.42*		µg/kg wet	1.973		71.7	40-130			
Surrogate: D3-NMeFOSA	*1.18*		µg/kg wet	1.973		59.8	10-130			
Surrogate: D5-NEtFOSA	*1.18*		µg/kg wet	1.973		60.0	10-130			
Surrogate: D3-NMeFOSAA	*2.70*		µg/kg wet	3.946		68.4	40-135			
Surrogate: D5-NEtFOSAA	*2.79*		µg/kg wet	3.946		70.6	40-150			
Surrogate: D7-NMeFOSE	*14.4*		µg/kg wet	19.73		72.9	20-130			
Surrogate: D9-NEtFOSE	*14.2*		µg/kg wet	19.73		71.9	15-130			
Surrogate: 13C3-HFPO-DA	*5.28*		µg/kg wet	7.893		66.9	40-130			
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	7.87	0.80	µg/kg wet	7.997		98.4	70-140			
Perfluoropentanoic acid (PFPeA)	3.88	0.40	µg/kg wet	3.998		97.0	60-150			
Perfluorohexanoic acid (PFHxA)	2.03	0.20	µg/kg wet	1.999		101	65-140			
Perfluoroheptanoic acid (PFHpA)	2.04	0.20	µg/kg wet	1.999		102	65-145			
Perfluorooctanoic acid (PFOA)	1.79	0.20	µg/kg wet	1.999		89.3	70-150			
Perfluorononanoic acid (PFNA)	2.03	0.20	µg/kg wet	1.999		102	70-155			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Perfluorodecanoic acid (PFDA)	2.01	0.20	µg/kg wet	1.999		100	70-155			
Perfluoroundecanoic acid (PFUnA)	1.96	0.20	µg/kg wet	1.999		98.2	70-155			
Perfluorododecanoic acid (PFDoA)	2.20	0.20	µg/kg wet	1.999		110	70-150			
Perfluorotridecanoic acid (PFTrDA)	2.17	0.20	µg/kg wet	1.999		108	65-150			
Perfluorotetradecanoic acid (PFTeDA)	2.10	0.20	µg/kg wet	1.999		105	65-150			
Perfluorobutanesulfonic acid (PFBS)	1.82	0.20	µg/kg wet	1.775		103	65-145			
Perfluoropentanesulfonic acid (PFPeS)	1.87	0.20	µg/kg wet	1.879		99.6	55-160			
Perfluorohexanesulfonic acid (PFHxS)	1.74	0.20	µg/kg wet	1.823		95.4	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	1.90	0.20	µg/kg wet	1.903		99.7	65-155			
Perfluorooctanesulfonic acid (PFOS)	1.78	0.20	µg/kg wet	1.855		95.8	65-160			
Perfluorononanesulfonic acid (PFNS)	1.94	0.20	µg/kg wet	1.919		101	55-140			
Perfluorodecanesulfonic acid (PFDS)	1.88	0.20	µg/kg wet	1.927		97.7	40-155			
Perfluorododecanesulfonic acid (PFDoS)	1.98	0.20	µg/kg wet	1.935		102	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.07	0.80	µg/kg wet	7.493		108	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.02	0.80	µg/kg wet	7.605		105	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	7.67	0.80	µg/kg wet	7.677		99.9	70-150			
Perfluorooctanesulfonamide (PFOSA)	1.93	0.20	µg/kg wet	1.999		96.8	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.99	0.20	µg/kg wet	1.999		99.4	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.05	0.20	µg/kg wet	1.999		103	70-140			
N-MeFOSAA (NMeFOSAA)	1.91	0.20	µg/kg wet	1.999		95.6	65-155			
N-EtFOSAA (NEtFOSAA)	1.95	0.20	µg/kg wet	1.999		97.3	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	19.8	2.0	µg/kg wet	19.99		99.3	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.2	2.0	µg/kg wet	19.99		101	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.26	0.80	µg/kg wet	7.997		103	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.92	0.80	µg/kg wet	7.557		105	70-160			
9Cl-PF3ONS (F53B Minor)	7.47	0.80	µg/kg wet	7.461		100	70-150			
11Cl-PF3OUdS (F53B Major)	7.74	0.80	µg/kg wet	7.469		104	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	5.57	1.0	µg/kg wet	9.996		55.7	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	54.4	5.0	µg/kg wet	49.98		109	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	53.3	5.0	µg/kg wet	49.98		107	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.71	0.40	µg/kg wet	3.567		104	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.14	0.40	µg/kg wet	3.998		103	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.88	0.40	µg/kg wet	3.998		96.9	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.55	0.40	µg/kg wet	3.998		88.8	60-155			
Surrogate: 13C4-PFBA	*5.54*		µg/kg wet	7.997		69.3	8-130			
Surrogate: 13C5-PFPeA	*3.08*		µg/kg wet	3.998		77.0	35-130			
Surrogate: 13C5-PFHxA	*1.51*		µg/kg wet	1.999		75.3	40-130			
Surrogate: 13C4-PFHpA	*1.41*		µg/kg wet	1.999		70.5	40-130			
Surrogate: 13C8-PFOA	*1.56*		µg/kg wet	1.999		78.0	40-130			
Surrogate: 13C9-PFNA	*0.744*		µg/kg wet	0.9996		74.5	40-130			
Surrogate: 13C6-PFDA	*0.726*		µg/kg wet	0.9996		72.6	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Surrogate: 13C7-PFUnA	*0.785*		µg/kg wet	0.9996		78.5	40-130			
Surrogate: 13C2-PFDoA	*0.685*		µg/kg wet	0.9996		68.5	40-130			
Surrogate: 13C2-PFTeDA	*0.667*		µg/kg wet	0.9996		66.7	20-130			
Surrogate: 13C3-PFBS	*1.49*		µg/kg wet	1.999		74.4	40-135			
Surrogate: 13C3-PFHxS	*1.53*		µg/kg wet	1.999		76.6	40-130			
Surrogate: 13C8-PFOS	*1.53*		µg/kg wet	1.999		76.3	40-130			
Surrogate: 13C2-4:2FTS	*3.23*		µg/kg wet	3.998		80.7	40-165			
Surrogate: 13C2-6:2FTS	*3.27*		µg/kg wet	3.998		81.8	40-215			
Surrogate: 13C2-8:2FTS	*3.39*		µg/kg wet	3.998		84.8	40-275			
Surrogate: 13C8-PFOSA	*1.48*		µg/kg wet	1.999		73.9	40-130			
Surrogate: D3-NMeFOSA	*1.20*		µg/kg wet	1.999		60.1	10-130			
Surrogate: D5-NEtFOSA	*1.21*		µg/kg wet	1.999		60.4	10-130			
Surrogate: D3-NMeFOSAA	*2.98*		µg/kg wet	3.998		74.6	40-135			
Surrogate: D5-NEtFOSAA	*2.91*		µg/kg wet	3.998		72.9	40-150			
Surrogate: D7-NMeFOSE	*14.5*		µg/kg wet	19.99		72.8	20-130			
Surrogate: D9-NEtFOSE	*14.3*		µg/kg wet	19.99		71.5	15-130			
Surrogate: 13C3-HFPO-DA	*5.87*		µg/kg wet	7.997		73.4	40-130			
MRL Check (B402522-MRL1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	1.44	0.79	µg/kg wet	1.269		113	70-140			
Perfluoropentanoic acid (PFPeA)	0.701	0.40	µg/kg wet	0.6344		110	60-150			
Perfluorohexanoic acid (PFHxA)	0.357	0.20	µg/kg wet	0.3172		113	65-140			
Perfluoroheptanoic acid (PFHpA)	0.352	0.20	µg/kg wet	0.3172		111	65-145			
Perfluorooctanoic acid (PFOA)	0.344	0.20	µg/kg wet	0.3172		109	70-150			
Perfluorononanoic acid (PFNA)	0.327	0.20	µg/kg wet	0.3172		103	70-155			
Perfluorodecanoic acid (PFDA)	0.353	0.20	µg/kg wet	0.3172		111	70-155			
Perfluoroundecanoic acid (PFUnA)	0.312	0.20	µg/kg wet	0.3172		98.3	70-155			
Perfluorododecanoic acid (PFDoA)	0.349	0.20	µg/kg wet	0.3172		110	70-150			
Perfluorotridecanoic acid (PFTrDA)	0.346	0.20	µg/kg wet	0.3172		109	65-150			
Perfluorotetradecanoic acid (PFTeDA)	0.343	0.20	µg/kg wet	0.3172		108	65-150			
Perfluorobutanesulfonic acid (PFBS)	0.305	0.20	µg/kg wet	0.2817		108	65-145			
Perfluoropentanesulfonic acid (PFPeS)	0.311	0.20	µg/kg wet	0.2982		104	55-160			
Perfluorohexanesulfonic acid (PFHxS)	0.304	0.20	µg/kg wet	0.2893		105	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	0.332	0.20	µg/kg wet	0.3020		110	65-155			
Perfluorooctanesulfonic acid (PFOS)	0.326	0.20	µg/kg wet	0.2944		111	65-160			
Perfluorononanesulfonic acid (PFNS)	0.333	0.20	µg/kg wet	0.3045		109	55-140			
Perfluorodecanesulfonic acid (PFDS)	0.319	0.20	µg/kg wet	0.3058		104	40-155			
Perfluorododecanesulfonic acid (PFDoS)	0.347	0.20	µg/kg wet	0.3071		113	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	1.30	0.79	µg/kg wet	1.189		109	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	2.19	0.79	µg/kg wet	1.207		181	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	1.52	0.79	µg/kg wet	1.218		125	70-150			
Perfluorooctanesulfonamide (PFOSA)	0.335	0.20	µg/kg wet	0.3172		105	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.363	0.20	µg/kg wet	0.3172		114	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.327	0.20	µg/kg wet	0.3172		103	70-140			
N-MeFOSAA (NMeFOSAA)	0.327	0.20	µg/kg wet	0.3172		103	65-155			
N-EtFOSAA (NEtFOSAA)	0.354	0.20	µg/kg wet	0.3172		112	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	3.41	2.0	µg/kg wet	3.172		108	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	3.44	2.0	µg/kg wet	3.172		108	70-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
MRL Check (B402522-MRL1)				Prepared & Analyzed: 04/09/25						
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	0.79	µg/kg wet	1.269		124	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.46	0.79	µg/kg wet	1.199		122	70-160			
9Cl-PF3ONS (F53B Minor)	1.37	0.79	µg/kg wet	1.184		115	70-150			
11Cl-PF3OUdS (F53B Major)	1.40	0.79	µg/kg wet	1.185		118	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	0.763	0.99	µg/kg wet	1.586		48.1	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	9.84	5.0	µg/kg wet	7.930		124	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	9.56	5.0	µg/kg wet	7.930		121	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.653	0.40	µg/kg wet	0.5659		115	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.727	0.40	µg/kg wet	0.6344		115	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.707	0.40	µg/kg wet	0.6344		111	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.670	0.40	µg/kg wet	0.6344		106	60-155			
Surrogate: 13C4-PFBA	*5.06*		µg/kg wet	7.930		63.8	8-130			
Surrogate: 13C5-PFPeA	*3.19*		µg/kg wet	3.965		80.5	35-130			
Surrogate: 13C5-PFHxA	*1.62*		µg/kg wet	1.983		81.5	40-130			
Surrogate: 13C4-PFHpA	*1.56*		µg/kg wet	1.983		78.6	40-130			
Surrogate: 13C8-PFOA	*1.74*		µg/kg wet	1.983		87.8	40-130			
Surrogate: 13C9-PFNA	*0.837*		µg/kg wet	0.9913		84.4	40-130			
Surrogate: 13C6-PFDA	*0.851*		µg/kg wet	0.9913		85.8	40-130			
Surrogate: 13C7-PFUnA	*0.925*		µg/kg wet	0.9913		93.3	40-130			
Surrogate: 13C2-PFDoA	*0.843*		µg/kg wet	0.9913		85.1	40-130			
Surrogate: 13C2-PFTeDA	*0.819*		µg/kg wet	0.9913		82.6	20-130			
Surrogate: 13C3-PFBS	*1.60*		µg/kg wet	1.983		80.7	40-135			
Surrogate: 13C3-PFHxS	*1.62*		µg/kg wet	1.983		81.9	40-130			
Surrogate: 13C8-PFOS	*1.68*		µg/kg wet	1.983		84.8	40-130			
Surrogate: 13C2-4:2FTS	*3.65*		µg/kg wet	3.965		92.1	40-165			
Surrogate: 13C2-6:2FTS	*3.55*		µg/kg wet	3.965		89.6	40-215			
Surrogate: 13C2-8:2FTS	*3.44*		µg/kg wet	3.965		86.7	40-275			
Surrogate: 13C8-PFOSA	*1.60*		µg/kg wet	1.983		80.5	40-130			
Surrogate: D3-NMeFOSA	*1.34*		µg/kg wet	1.983		67.8	10-130			
Surrogate: D5-NEtFOSA	*1.39*		µg/kg wet	1.983		70.1	10-130			
Surrogate: D3-NMeFOSAA	*3.30*		µg/kg wet	3.965		83.2	40-135			
Surrogate: D5-NEtFOSAA	*3.12*		µg/kg wet	3.965		78.7	40-150			
Surrogate: D7-NMeFOSE	*16.7*		µg/kg wet	19.83		84.3	20-130			
Surrogate: D9-NEtFOSE	*16.7*		µg/kg wet	19.83		84.1	15-130			
Surrogate: 13C3-HFPO-DA	*6.09*		µg/kg wet	7.930		76.8	40-130			
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*78.1*		ng/L	78.27		99.8	5-130			
Surrogate: 13C5-PFPeA	*39.9*		ng/L	39.13		102	40-130			
Surrogate: 13C5-PFHxA	*20.4*		ng/L	19.57		104	40-130			
Surrogate: 13C4-PFHpA	*20.1*		ng/L	19.57		103	40-130			
Surrogate: 13C8-PFOA	*19.5*		ng/L	19.57		99.7	40-130			
Surrogate: 13C9-PFNA	*9.84*		ng/L	9.783		101	40-130			
Surrogate: 13C6-PFDA	*9.86*		ng/L	9.783		101	40-130			
Surrogate: 13C7-PFUnA	*10.3*		ng/L	9.783		105	30-130			
Surrogate: 13C2-PFDoA	*8.88*		ng/L	9.783		90.8	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C2-PFTeDA	*8.57*		ng/L	9.783		87.6	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	19.57		103	40-135			
Surrogate: 13C3-PFHxS	*20.5*		ng/L	19.57		105	40-130			
Surrogate: 13C8-PFOS	*20.1*		ng/L	19.57		103	40-130			
Surrogate: 13C2-4:2FTS	*42.0*		ng/L	39.13		107	40-200			
Surrogate: 13C2-6:2FTS	*42.3*		ng/L	39.13		108	40-200			
Surrogate: 13C2-8:2FTS	*34.6*		ng/L	39.13		88.4	40-300			
Surrogate: 13C8-PFOSA	*18.3*		ng/L	19.57		93.8	40-130			
Surrogate: D3-NMeFOSA	*16.1*		ng/L	19.57		82.5	10-130			
Surrogate: D5-NEtFOSA	*15.7*		ng/L	19.57		80.1	10-130			
Surrogate: D3-NMeFOSAA	*38.7*		ng/L	39.13		99.0	40-170			
Surrogate: D5-NEtFOSAA	*38.3*		ng/L	39.13		97.8	25-135			
Surrogate: D7-NMeFOSE	*169*		ng/L	195.7		86.6	10-130			
Surrogate: D9-NEtFOSE	*166*		ng/L	195.7		85.0	10-130			
Surrogate: 13C3-HFPO-DA	*82.8*		ng/L	78.27		106	40-130			
LCS (B402610-BS1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	70.8	6.2	ng/L	77.97		90.8	70-140			
Perfluoropentanoic acid (PFPeA)	36.4	3.1	ng/L	38.99		93.2	65-135			
Perfluorohexanoic acid (PFHxA)	18.1	1.6	ng/L	19.49		93.1	70-145			
Perfluoroheptanoic acid (PFHpA)	18.0	1.6	ng/L	19.49		92.5	70-150			
Perfluorooctanoic acid (PFOA)	17.2	1.6	ng/L	19.49		88.2	70-150			
Perfluorononanoic acid (PFNA)	18.3	1.6	ng/L	19.49		94.1	70-150			
Perfluorodecanoic acid (PFDA)	18.2	1.6	ng/L	19.49		93.4	70-140			
Perfluoroundecanoic acid (PFUnA)	18.0	1.6	ng/L	19.49		92.4	70-145			
Perfluorododecanoic acid (PFDoA)	19.4	1.6	ng/L	19.49		99.4	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.2	1.6	ng/L	19.49		98.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	19.0	1.6	ng/L	19.49		97.3	60-140			
Perfluorobutanesulfonic acid (PFBS)	16.5	1.6	ng/L	17.31		95.2	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.5	1.6	ng/L	18.32		95.5	65-140			
Perfluorohexanesulfonic acid (PFHxS)	17.3	1.6	ng/L	17.78		97.1	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	16.9	1.6	ng/L	18.56		91.2	70-150			
Perfluorooctanesulfonic acid (PFOS)	15.7	1.6	ng/L	18.09		87.0	55-150			
Perfluorononanesulfonic acid (PFNS)	17.0	1.6	ng/L	18.71		90.9	65-145			
Perfluorodecanesulfonic acid (PFDS)	16.7	1.6	ng/L	18.79		88.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.2	1.6	ng/L	18.87		85.6	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	71.7	6.2	ng/L	73.06		98.2	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	79.8	6.2	ng/L	74.15		108	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	78.9	6.2	ng/L	74.86		105	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.3	1.6	ng/L	19.49		93.9	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	18.1	1.6	ng/L	19.49		92.7	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	17.9	1.6	ng/L	19.49		92.0	65-145			
N-MeFOSAA (NMeFOSAA)	18.8	1.6	ng/L	19.49		96.2	50-140			
N-EtFOSAA (NEtFOSAA)	16.5	1.6	ng/L	19.49		84.6	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	183	16	ng/L	194.9		93.8	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	189	16	ng/L	194.9		97.0	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	75.5	6.2	ng/L	77.97		96.9	70-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
LCS (B402610-BS1)				Prepared: 04/17/25 Analyzed: 04/18/25						
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	71.6	6.2	ng/L	73.69		97.1	65-145			
9Cl-PF3ONS (F53B Minor)	67.5	6.2	ng/L	72.75		92.8	70-155			
11Cl-PF3OUdS (F53B Major)	68.4	6.2	ng/L	72.52		94.3	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	81.6	7.8	ng/L	97.47		83.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	449	39	ng/L	487.3		92.2	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	453	39	ng/L	487.3		93.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	33.0	3.1	ng/L	34.78		94.9	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.3	3.1	ng/L	38.99		90.6	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	36.7	3.1	ng/L	38.99		94.0	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	38.5	3.1	ng/L	38.99		98.7	50-150			
Surrogate: 13C4-PFBA	*76.6*		ng/L	77.97		98.2	5-130			
Surrogate: 13C5-PFPeA	*37.5*		ng/L	38.99		96.3	40-130			
Surrogate: 13C5-PFHxA	*18.9*		ng/L	19.49		97.2	40-130			
Surrogate: 13C4-PFHpA	*18.6*		ng/L	19.49		95.4	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.49		95.8	40-130			
Surrogate: 13C9-PFNA	*9.40*		ng/L	9.747		96.5	40-130			
Surrogate: 13C6-PFDA	*9.60*		ng/L	9.747		98.5	40-130			
Surrogate: 13C7-PFUnA	*9.85*		ng/L	9.747		101	30-130			
Surrogate: 13C2-PFDoA	*8.78*		ng/L	9.747		90.1	10-130			
Surrogate: 13C2-PFTeDA	*8.38*		ng/L	9.747		86.0	10-130			
Surrogate: 13C3-PFBS	*19.8*		ng/L	19.49		102	40-135			
Surrogate: 13C3-PFHxS	*19.4*		ng/L	19.49		99.6	40-130			
Surrogate: 13C8-PFOS	*18.7*		ng/L	19.49		95.8	40-130			
Surrogate: 13C2-4:2FTS	*42.6*		ng/L	38.99		109	40-200			
Surrogate: 13C2-6:2FTS	*38.0*		ng/L	38.99		97.6	40-200			
Surrogate: 13C2-8:2FTS	*34.3*		ng/L	38.99		87.9	40-300			
Surrogate: 13C8-PFOSA	*16.5*		ng/L	19.49		84.6	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.49		74.5	10-130			
Surrogate: D5-NEtFOSA	*14.1*		ng/L	19.49		72.5	10-130			
Surrogate: D3-NMeFOSAA	*37.0*		ng/L	38.99		95.0	40-170			
Surrogate: D5-NEtFOSAA	*35.8*		ng/L	38.99		91.8	25-135			
Surrogate: D7-NMeFOSE	*156*		ng/L	194.9		79.9	10-130			
Surrogate: D9-NEtFOSE	*151*		ng/L	194.9		77.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.0*		ng/L	77.97		96.2	40-130			
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	10.7	6.3	ng/L	12.53		85.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.35	3.1	ng/L	6.267		85.4	65-135			
Perfluorohexanoic acid (PFHxA)	2.69	1.6	ng/L	3.134		85.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.52	1.6	ng/L	3.134		80.4	70-150			
Perfluorooctanoic acid (PFOA)	2.81	1.6	ng/L	3.134		89.7	70-150			
Perfluorononanoic acid (PFNA)	2.49	1.6	ng/L	3.134		79.3	70-150			
Perfluorodecanoic acid (PFDA)	2.81	1.6	ng/L	3.134		89.5	70-140			
Perfluoroundecanoic acid (PFUnA)	2.57	1.6	ng/L	3.134		81.9	70-145			
Perfluorododecanoic acid (PFDoA)	2.93	1.6	ng/L	3.134		93.6	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.56	1.6	ng/L	3.134		81.8	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.67	1.6	ng/L	3.134		85.2	60-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanesulfonic acid (PFBS)	2.41	1.6	ng/L	2.783		86.5	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.22	1.6	ng/L	2.946		75.5	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.39	1.6	ng/L	2.858		83.7	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.38	1.6	ng/L	2.983		79.7	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.54	1.6	ng/L	2.908		87.3	55-150			
Perfluorononanesulfonic acid (PFNS)	2.35	1.6	ng/L	3.008		78.0	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.34	1.6	ng/L	3.021		77.6	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.29	1.6	ng/L	3.033		75.5	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.0	6.3	ng/L	11.74		85.2	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.8	6.3	ng/L	11.92		90.5	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.6	6.3	ng/L	12.03		88.5	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.60	1.6	ng/L	3.134		83.0	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.74	1.6	ng/L	3.134		87.5	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.73	1.6	ng/L	3.134		87.0	65-145			
N-MeFOSAA (NMeFOSAA)	2.84	1.6	ng/L	3.134		90.7	50-140			
N-EtFOSAA (NEtFOSAA)	2.85	1.6	ng/L	3.134		91.0	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	25.3	16	ng/L	31.34		80.8	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	26.5	16	ng/L	31.34		84.5	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.5	6.3	ng/L	12.53		83.9	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.3	6.3	ng/L	11.85		87.2	65-145			
9Cl-PF3ONS (F53B Minor)	9.78	6.3	ng/L	11.69		83.7	70-155			
11Cl-PF3OUdS (F53B Major)	9.81	6.3	ng/L	11.71		83.8	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	10.9	7.8	ng/L	15.67		69.5	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	63.0	39	ng/L	78.34		80.4	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	68.8	39	ng/L	78.34		87.9	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.73	3.1	ng/L	5.590		84.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.90	3.1	ng/L	6.267		78.2	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.50	3.1	ng/L	6.267		87.7	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.94	3.1	ng/L	6.267		78.8	50-150			
Surrogate: 13C4-PFBA	*75.8*		ng/L	78.34		96.8	5-130			
Surrogate: 13C5-PFPeA	*38.5*		ng/L	39.17		98.3	40-130			
Surrogate: 13C5-PFHxA	*20.0*		ng/L	19.59		102	40-130			
Surrogate: 13C4-PFHpA	*19.5*		ng/L	19.59		99.6	40-130			
Surrogate: 13C8-PFOA	*18.8*		ng/L	19.59		96.2	40-130			
Surrogate: 13C9-PFNA	*9.35*		ng/L	9.793		95.5	40-130			
Surrogate: 13C6-PFDA	*9.00*		ng/L	9.793		91.9	40-130			
Surrogate: 13C7-PFUnA	*9.61*		ng/L	9.793		98.1	30-130			
Surrogate: 13C2-PFDoA	*8.56*		ng/L	9.793		87.4	10-130			
Surrogate: 13C2-PFTeDA	*8.09*		ng/L	9.793		82.6	10-130			
Surrogate: 13C3-PFBS	*20.1*		ng/L	19.59		103	40-135			
Surrogate: 13C3-PFHxS	*20.4*		ng/L	19.59		104	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C8-PFOS	*19.5*		ng/L	19.59		99.5	40-130			
Surrogate: 13C2-4:2FTS	*43.0*		ng/L	39.17		110	40-200			
Surrogate: 13C2-6:2FTS	*40.7*		ng/L	39.17		104	40-200			
Surrogate: 13C2-8:2FTS	*38.0*		ng/L	39.17		97.0	40-300			
Surrogate: 13C8-PFOSA	*17.3*		ng/L	19.59		88.5	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.59		73.8	10-130			
Surrogate: D5-NEtFOSA	*14.2*		ng/L	19.59		72.3	10-130			
Surrogate: D3-NMeFOSAA	*38.8*		ng/L	39.17		98.9	40-170			
Surrogate: D5-NEtFOSAA	*36.2*		ng/L	39.17		92.4	25-135			
Surrogate: D7-NMeFOSE	*157*		ng/L	195.9		80.1	10-130			
Surrogate: D9-NEtFOSE	*151*		ng/L	195.9		77.3	10-130			
Surrogate: 13C3-HFPO-DA	*78.1*		ng/L	78.34		99.6	40-130			
Matrix Spike (B402610-MS1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	74.9	6.5	ng/L	80.67	1.54	90.9	70-140			
Perfluoropentanoic acid (PFPeA)	37.0	3.2	ng/L	40.33	0.655	90.1	65-135			
Perfluorohexanoic acid (PFHxA)	19.6	1.6	ng/L	20.17	0.883	92.7	70-145			
Perfluoroheptanoic acid (PFHpA)	19.2	1.6	ng/L	20.17	0.301	93.6	70-150			
Perfluorooctanoic acid (PFOA)	19.0	1.6	ng/L	20.17	1.25	87.9	70-150			
Perfluorononanoic acid (PFNA)	18.9	1.6	ng/L	20.17	ND	93.6	70-150			
Perfluorodecanoic acid (PFDA)	18.2	1.6	ng/L	20.17	ND	90.5	70-140			
Perfluoroundecanoic acid (PFUnA)	18.9	1.6	ng/L	20.17	ND	93.7	70-145			
Perfluorododecanoic acid (PFDoA)	20.2	1.6	ng/L	20.17	ND	100	70-140			
Perfluorotridecanoic acid (PFTrDA)	20.4	1.6	ng/L	20.17	ND	101	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.0	1.6	ng/L	20.17	ND	99.4	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.3	1.6	ng/L	17.91	0.468	94.2	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.6	1.6	ng/L	18.96	ND	93.0	65-140			
Perfluorohexanesulfonic acid (PFHxS)	22.4	1.6	ng/L	18.39	5.49	91.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	18.2	1.6	ng/L	19.20	ND	94.8	70-150			
Perfluorooctanesulfonic acid (PFOS)	23.9	1.6	ng/L	18.71	7.37	88.2	55-150			
Perfluorononanesulfonic acid (PFNS)	17.5	1.6	ng/L	19.36	ND	90.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	16.3	1.6	ng/L	19.44	ND	83.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.0	1.6	ng/L	19.52	ND	82.1	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.9	6.5	ng/L	75.58	ND	106	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76.7	6.5	ng/L	76.71	ND	99.9	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	79.7	6.5	ng/L	77.44	ND	103	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.7	1.6	ng/L	20.17	ND	92.8	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	19.0	1.6	ng/L	20.17	ND	94.3	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.2	1.6	ng/L	20.17	ND	90.4	65-145			
N-MeFOSAA (NMeFOSAA)	17.8	1.6	ng/L	20.17	ND	88.2	50-140			
N-EtFOSAA (NEtFOSAA)	18.9	1.6	ng/L	20.17	ND	93.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	190	16	ng/L	201.7	ND	94.0	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	196	16	ng/L	201.7	ND	97.4	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	79.5	6.5	ng/L	80.67	ND	98.6	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	70.9	6.5	ng/L	76.23	ND	93.0	65-145			
9Cl-PF3ONS (F53B Minor)	70.4	6.5	ng/L	75.26	ND	93.5	70-155			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike (B402610-MS1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
11Cl-PF3OUdS (F53B Major)	67.1	6.5	ng/L	75.02	ND	89.5	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	84.3	8.1	ng/L	100.8	ND	83.6	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	463	40	ng/L	504.2	ND	91.8	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	491	40	ng/L	504.2	ND	97.4	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	34.5	3.2	ng/L	35.98	ND	96.0	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	37.2	3.2	ng/L	40.33	ND	92.1	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	37.9	3.2	ng/L	40.33	ND	93.9	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	38.2	3.2	ng/L	40.33	ND	94.6	50-150			
Surrogate: 13C4-PFBA	*75.5*		ng/L	80.67		93.6	5-130			
Surrogate: 13C5-PFPeA	*36.1*		ng/L	40.33		89.5	40-130			
Surrogate: 13C5-PFHxA	*18.8*		ng/L	20.17		93.3	40-130			
Surrogate: 13C4-PFHpA	*19.1*		ng/L	20.17		94.8	40-130			
Surrogate: 13C8-PFOA	*19.3*		ng/L	20.17		95.5	40-130			
Surrogate: 13C9-PFNA	*9.45*		ng/L	10.08		93.7	40-130			
Surrogate: 13C6-PFDA	*9.22*		ng/L	10.08		91.5	40-130			
Surrogate: 13C7-PFUnA	*8.98*		ng/L	10.08		89.0	30-130			
Surrogate: 13C2-PFDoA	*7.66*		ng/L	10.08		75.9	10-130			
Surrogate: 13C2-PFTeDA	*7.35*		ng/L	10.08		72.9	10-130			
Surrogate: 13C3-PFBS	*20.8*		ng/L	20.17		103	40-135			
Surrogate: 13C3-PFHxS	*20.1*		ng/L	20.17		99.7	40-130			
Surrogate: 13C8-PFOS	*18.5*		ng/L	20.17		91.7	40-130			
Surrogate: 13C2-4:2FTS	*41.0*		ng/L	40.33		102	40-200			
Surrogate: 13C2-6:2FTS	*36.6*		ng/L	40.33		90.6	40-200			
Surrogate: 13C2-8:2FTS	*32.2*		ng/L	40.33		79.9	40-300			
Surrogate: 13C8-PFOSA	*16.4*		ng/L	20.17		81.4	40-130			
Surrogate: D3-NMeFOSA	*12.4*		ng/L	20.17		61.3	10-130			
Surrogate: D5-NEtFOSA	*12.4*		ng/L	20.17		61.5	10-130			
Surrogate: D3-NMeFOSAA	*35.7*		ng/L	40.33		88.4	40-170			
Surrogate: D5-NEtFOSAA	*33.8*		ng/L	40.33		83.8	25-135			
Surrogate: D7-NMeFOSE	*133*		ng/L	201.7		66.2	10-130			
Surrogate: D9-NEtFOSE	*128*		ng/L	201.7		63.6	10-130			
Surrogate: 13C3-HFPO-DA	*72.9*		ng/L	80.67		90.4	40-130			
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	73.3	6.3	ng/L	78.42	1.54	91.5	70-140	2.13	25	
Perfluoropentanoic acid (PFPeA)	36.1	3.1	ng/L	39.21	0.655	90.3	65-135	2.59	25	
Perfluorohexanoic acid (PFHxA)	19.3	1.6	ng/L	19.61	0.883	94.1	70-145	1.27	25	
Perfluoroheptanoic acid (PFHpA)	18.9	1.6	ng/L	19.61	0.301	95.0	70-150	1.28	25	
Perfluorooctanoic acid (PFOA)	18.3	1.6	ng/L	19.61	1.25	87.1	70-150	3.51	25	
Perfluorononanoic acid (PFNA)	18.4	1.6	ng/L	19.61	ND	93.7	70-150	2.64	25	
Perfluorodecanoic acid (PFDA)	18.6	1.6	ng/L	19.61	ND	94.9	70-140	1.92	25	
Perfluoroundecanoic acid (PFUnA)	18.7	1.6	ng/L	19.61	ND	95.5	70-145	0.942	25	
Perfluorododecanoic acid (PFDoA)	18.6	1.6	ng/L	19.61	ND	94.8	70-140	8.54	25	
Perfluorotridecanoic acid (PFTrDA)	18.4	1.6	ng/L	19.61	ND	93.7	65-140	10.5	25	
Perfluorotetradecanoic acid (PFTeDA)	19.3	1.6	ng/L	19.61	ND	98.5	60-140	3.74	25	
Perfluorobutanesulfonic acid (PFBS)	16.9	1.6	ng/L	17.41	0.468	94.6	60-145	2.39	25	
Perfluoropentanesulfonic acid (PFPeS)	17.1	1.6	ng/L	18.43	ND	92.7	65-140	3.11	25	
Perfluorohexanesulfonic acid (PFHxS)	23.5	1.6	ng/L	17.88	5.49	101	65-145	4.95	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluoroheptanesulfonic acid (PFHpS)	17.3	1.6	ng/L	18.66	ND	92.9	70-150	4.86	25	
Perfluorooctanesulfonic acid (PFOS)	23.0	1.6	ng/L	18.19	7.37	86.1	55-150	3.62	25	
Perfluorononanesulfonic acid (PFNS)	16.6	1.6	ng/L	18.82	ND	88.2	65-145	5.46	25	
Perfluorodecanesulfonic acid (PFDS)	14.9	1.6	ng/L	18.90	ND	78.8	60-145	9.03	25	
Perfluorododecanesulfonic acid (PFDoS)	15.0	1.6	ng/L	18.98	ND	78.9	50-145	6.70	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	75.3	6.3	ng/L	73.48	ND	102	70-145	5.89	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	75.9	6.3	ng/L	74.58	ND	102	65-155	1.04	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	79.4	6.3	ng/L	75.29	ND	105	60-150	0.374	25	
Perfluorooctanesulfonamide (PFOSA)	18.3	1.6	ng/L	19.61	ND	93.4	70-145	2.15	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	17.6	1.6	ng/L	19.61	ND	89.9	60-150	7.62	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.3	1.6	ng/L	19.61	ND	93.3	65-145	0.369	25	
N-MeFOSAA (NMeFOSAA)	16.5	1.6	ng/L	19.61	ND	84.3	50-140	7.30	25	
N-EtFOSAA (NEtFOSAA)	18.1	1.6	ng/L	19.61	ND	92.4	70-145	4.21	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	188	16	ng/L	196.1	ND	96.0	70-145	0.728	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	184	16	ng/L	196.1	ND	93.9	70-135	6.49	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	75.5	6.3	ng/L	78.42	ND	96.2	70-140	5.28	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	69.9	6.3	ng/L	74.11	ND	94.3	65-145	1.35	25	
9Cl-PF3ONS (F53B Minor)	66.7	6.3	ng/L	73.17	ND	91.2	70-155	5.30	25	
11Cl-PF3OUdS (F53B Major)	65.2	6.3	ng/L	72.93	ND	89.4	55-160	2.86	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	79.8	7.8	ng/L	98.03	ND	81.4	65-130	5.57	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	464	39	ng/L	490.1	ND	94.6	70-135	0.211	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	473	39	ng/L	490.1	ND	96.5	50-145	3.72	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	35.2	3.1	ng/L	34.98	ND	101	70-140	1.81	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.7	3.1	ng/L	39.21	ND	91.0	55-140	4.10	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	36.8	3.1	ng/L	39.21	ND	93.8	60-150	2.88	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	37.6	3.1	ng/L	39.21	ND	95.9	50-150	1.46	25	
Surrogate: 13C4-PFBA	*76.0*		ng/L	78.42		96.9	5-130			
Surrogate: 13C5-PFPeA	*37.6*		ng/L	39.21		95.8	40-130			
Surrogate: 13C5-PFHxA	*19.0*		ng/L	19.61		96.7	40-130			
Surrogate: 13C4-PFHpA	*19.7*		ng/L	19.61		100	40-130			
Surrogate: 13C8-PFOA	*19.2*		ng/L	19.61		97.9	40-130			
Surrogate: 13C9-PFNA	*9.48*		ng/L	9.803		96.7	40-130			
Surrogate: 13C6-PFDA	*9.52*		ng/L	9.803		97.1	40-130			
Surrogate: 13C7-PFUnA	*8.95*		ng/L	9.803		91.3	30-130			
Surrogate: 13C2-PFDoA	*8.72*		ng/L	9.803		88.9	10-130			
Surrogate: 13C2-PFTeDA	*8.04*		ng/L	9.803		82.0	10-130			
Surrogate: 13C3-PFBS	*20.5*		ng/L	19.61		105	40-135			
Surrogate: 13C3-PFHxS	*19.5*		ng/L	19.61		99.7	40-130			
Surrogate: 13C8-PFOS	*20.0*		ng/L	19.61		102	40-130			
Surrogate: 13C2-4:2FTS	*37.6*		ng/L	39.21		95.8	40-200			
Surrogate: 13C2-6:2FTS	*33.9*		ng/L	39.21		86.3	40-200			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C2-8:2FTS	*32.4*		ng/L	39.21		82.6	40-300			
Surrogate: 13C8-PFOSA	*17.6*		ng/L	19.61		89.7	40-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	19.61		71.9	10-130			
Surrogate: D5-NEtFOSA	*13.2*		ng/L	19.61		67.2	10-130			
Surrogate: D3-NMeFOSAA	*35.4*		ng/L	39.21		90.3	40-170			
Surrogate: D5-NEtFOSAA	*32.3*		ng/L	39.21		82.5	25-135			
Surrogate: D7-NMeFOSE	*142*		ng/L	196.1		72.5	10-130			
Surrogate: D9-NEtFOSE	*141*		ng/L	196.1		72.0	10-130			
Surrogate: 13C3-HFPO-DA	*76.8*		ng/L	78.42		98.0	40-130			
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							L-03
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*66.5*		ng/L	78.94		84.2	5-130			
Surrogate: 13C5-PFPeA	*33.5*		ng/L	39.47		84.8	40-130			
Surrogate: 13C5-PFHxA	*16.9*		ng/L	19.73		85.9	40-130			
Surrogate: 13C4-PFHpA	*15.8*		ng/L	19.73		80.1	40-130			
Surrogate: 13C8-PFOA	*18.0*		ng/L	19.73		91.3	40-130			
Surrogate: 13C9-PFNA	*8.23*		ng/L	9.867		83.4	40-130			
Surrogate: 13C6-PFDA	*8.37*		ng/L	9.867		84.9	40-130			
Surrogate: 13C7-PFUnA	*8.42*		ng/L	9.867		85.3	30-130			
Surrogate: 13C2-PFDoA	*7.24*		ng/L	9.867		73.4	10-130			
Surrogate: 13C2-PFTeDA	*6.41*		ng/L	9.867		65.0	10-130			
Surrogate: 13C3-PFBS	*15.3*		ng/L	19.73		77.7	40-135			
Surrogate: 13C3-PFHxS	*17.0*		ng/L	19.73		86.2	40-130			
Surrogate: 13C8-PFOS	*16.9*		ng/L	19.73		85.7	40-130			
Surrogate: 13C2-4:2FTS	*35.6*		ng/L	39.47		90.3	40-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	39.47		94.6	40-200			
Surrogate: 13C2-8:2FTS	*30.4*		ng/L	39.47		77.1	40-300			
Surrogate: 13C8-PFOSA	*13.4*		ng/L	19.73		67.8	40-130			
Surrogate: D3-NMeFOSA	*12.7*		ng/L	19.73		64.2	10-130			
Surrogate: D5-NEtFOSA	*12.0*		ng/L	19.73		61.1	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.47		82.6	40-170			
Surrogate: D5-NEtFOSAA	*31.0*		ng/L	39.47		78.5	25-135			
Surrogate: D7-NMeFOSE	*111*		ng/L	197.3		56.2	10-130			
Surrogate: D9-NEtFOSE	*105*		ng/L	197.3		53.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.3*		ng/L	78.94		95.4	40-130			
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	75.8	6.3	ng/L	79.00		95.9	70-140			
Perfluoropentanoic acid (PFPeA)	39.3	3.2	ng/L	39.50		99.4	65-135			
Perfluorohexanoic acid (PFHxA)	19.3	1.6	ng/L	19.75		97.7	70-145			
Perfluoroheptanoic acid (PFHpA)	18.9	1.6	ng/L	19.75		95.5	70-150			
Perfluorooctanoic acid (PFOA)	17.7	1.6	ng/L	19.75		89.6	70-150			
Perfluorononanoic acid (PFNA)	19.4	1.6	ng/L	19.75		98.4	70-150			
Perfluorodecanoic acid (PFDA)	19.5	1.6	ng/L	19.75		98.8	70-140			
Perfluoroundecanoic acid (PFUnA)	19.8	1.6	ng/L	19.75		100	70-145			
Perfluorododecanoic acid (PFDoA)	19.6	1.6	ng/L	19.75		99.2	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.2	1.6	ng/L	19.75		97.4	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.4	1.6	ng/L	19.75		103	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.9	1.6	ng/L	17.54		102	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.4	1.6	ng/L	18.56		93.7	65-140			
Perfluorohexanesulfonic acid (PFHxS)	15.8	1.6	ng/L	18.01		87.6	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	19.5	1.6	ng/L	18.80		104	70-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorooctanesulfonic acid (PFOS)	17.8	1.6	ng/L	18.33		97.1	55-150			
Perfluorononanesulfonic acid (PFNS)	18.9	1.6	ng/L	18.96		99.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	17.8	1.6	ng/L	19.04		93.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	15.6	1.6	ng/L	19.12		81.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.5	6.3	ng/L	74.02		107	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	78.2	6.3	ng/L	75.13		104	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	83.2	6.3	ng/L	75.84		110	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.1	1.6	ng/L	19.75		91.7	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.1	1.6	ng/L	19.75		102	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.0	1.6	ng/L	19.75		106	65-145			
N-MeFOSAA (NMeFOSAA)	17.8	1.6	ng/L	19.75		90.2	50-140			
N-EtFOSAA (NEtFOSAA)	18.3	1.6	ng/L	19.75		92.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	197	16	ng/L	197.5		99.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	201	16	ng/L	197.5		102	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	80.0	6.3	ng/L	79.00		101	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	79.4	6.3	ng/L	74.65		106	65-145			
9Cl-PF3ONS (F53B Minor)	74.3	6.3	ng/L	73.70		101	70-155			
11Cl-PF3OUdS (F53B Major)	68.0	6.3	ng/L	73.47		92.6	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	73.3	7.9	ng/L	98.75		74.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	379	39	ng/L	493.7		76.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	405	39	ng/L	493.7		82.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	37.2	3.2	ng/L	35.23		106	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.1	3.2	ng/L	39.50		88.8	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	39.3	3.2	ng/L	39.50		99.5	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.8	3.2	ng/L	39.50		113	50-150			
Surrogate: 13C4-PFBA	*62.3*		ng/L	79.00		78.9	5-130			
Surrogate: 13C5-PFPeA	*30.6*		ng/L	39.50		77.5	40-130			
Surrogate: 13C5-PFHxA	*15.4*		ng/L	19.75		78.0	40-130			
Surrogate: 13C4-PFHpA	*14.3*		ng/L	19.75		72.2	40-130			
Surrogate: 13C8-PFOA	*16.6*		ng/L	19.75		84.0	40-130			
Surrogate: 13C9-PFNA	*7.74*		ng/L	9.875		78.4	40-130			
Surrogate: 13C6-PFDA	*7.73*		ng/L	9.875		78.2	40-130			
Surrogate: 13C7-PFUnA	*7.69*		ng/L	9.875		77.9	30-130			
Surrogate: 13C2-PFDoA	*6.93*		ng/L	9.875		70.2	10-130			
Surrogate: 13C2-PFTeDA	*6.22*		ng/L	9.875		63.0	10-130			
Surrogate: 13C3-PFBS	*14.1*		ng/L	19.75		71.4	40-135			
Surrogate: 13C3-PFHxS	*16.0*		ng/L	19.75		81.2	40-130			
Surrogate: 13C8-PFOS	*15.1*		ng/L	19.75		76.3	40-130			
Surrogate: 13C2-4:2FTS	*32.5*		ng/L	39.50		82.3	40-200			
Surrogate: 13C2-6:2FTS	*34.6*		ng/L	39.50		87.6	40-200			
Surrogate: 13C2-8:2FTS	*29.6*		ng/L	39.50		74.8	40-300			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Surrogate: 13C8-PFOSA	*12.5*		ng/L	19.75		63.4	40-130			
Surrogate: D3-NMeFOSA	*11.2*		ng/L	19.75		56.7	10-130			
Surrogate: D5-NEtFOSA	*10.8*		ng/L	19.75		54.4	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.50		82.4	40-170			
Surrogate: D5-NEtFOSAA	*29.8*		ng/L	39.50		75.5	25-135			
Surrogate: D7-NMeFOSE	*107*		ng/L	197.5		54.1	10-130			
Surrogate: D9-NEtFOSE	*103*		ng/L	197.5		52.1	10-130			
Surrogate: 13C3-HFPO-DA	*66.2*		ng/L	79.00		83.8	40-130			
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	11.4	6.3	ng/L	12.63		90.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.54	3.2	ng/L	6.316		87.8	65-135			
Perfluorohexanoic acid (PFHxA)	2.54	1.6	ng/L	3.158		80.5	70-145			
Perfluoroheptanoic acid (PFHpA)	2.56	1.6	ng/L	3.158		81.1	70-150			
Perfluorooctanoic acid (PFOA)	3.06	1.6	ng/L	3.158		96.8	70-150			
Perfluorononanoic acid (PFNA)	2.70	1.6	ng/L	3.158		85.3	70-150			
Perfluorodecanoic acid (PFDA)	2.87	1.6	ng/L	3.158		91.0	70-140			
Perfluoroundecanoic acid (PFUnA)	2.77	1.6	ng/L	3.158		87.6	70-145			
Perfluorododecanoic acid (PFDoA)	2.83	1.6	ng/L	3.158		89.5	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.72	1.6	ng/L	3.158		86.0	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.89	1.6	ng/L	3.158		91.5	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.34	1.6	ng/L	2.804		83.6	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.18	1.6	ng/L	2.969		73.3	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.26	1.6	ng/L	2.880		78.5	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.57	1.6	ng/L	3.007		85.4	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.51	1.6	ng/L	2.931		85.6	55-150			
Perfluorononanesulfonic acid (PFNS)	2.39	1.6	ng/L	3.032		79.0	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.48	1.6	ng/L	3.044		81.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	1.85	1.6	ng/L	3.057		60.5	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.88	6.3	ng/L	11.84		83.5	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.2	6.3	ng/L	12.01		93.1	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.8	6.3	ng/L	12.13		89.1	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.63	1.6	ng/L	3.158		83.4	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.87	1.6	ng/L	3.158		91.0	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.99	1.6	ng/L	3.158		94.5	65-145			
N-MeFOSAA (NMeFOSAA)	2.82	1.6	ng/L	3.158		89.3	50-140			
N-EtFOSAA (NEtFOSAA)	2.52	1.6	ng/L	3.158		79.9	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	27.1	16	ng/L	31.58		85.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	27.5	16	ng/L	31.58		86.9	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.6	6.3	ng/L	12.63		84.0	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.5	6.3	ng/L	11.94		95.9	65-145			
9Cl-PF3ONS (F53B Minor)	10.1	6.3	ng/L	11.79		85.8	70-155			
11Cl-PF3OUdS (F53B Major)	9.25	6.3	ng/L	11.80		78.4	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	10.3	7.9	ng/L	15.79		65.5	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	51.0	39	ng/L	78.95		**64.6**	* 70-135			L-03

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	55.4	39	ng/L	78.95		70.1	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.21	3.2	ng/L	5.634		92.5	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.96	3.2	ng/L	6.316		78.5	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.41	3.2	ng/L	6.316		85.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.25	3.2	ng/L	6.316		99.0	50-150			
Surrogate: 13C4-PFBA	*69.3*		ng/L	78.95		87.8	5-130			
Surrogate: 13C5-PFPeA	*36.1*		ng/L	39.48		91.5	40-130			
Surrogate: 13C5-PFHxA	*18.1*		ng/L	19.74		91.8	40-130			
Surrogate: 13C4-PFHpA	*16.8*		ng/L	19.74		85.1	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.74		94.9	40-130			
Surrogate: 13C9-PFNA	*8.62*		ng/L	9.869		87.4	40-130			
Surrogate: 13C6-PFDA	*8.03*		ng/L	9.869		81.3	40-130			
Surrogate: 13C7-PFUnA	*7.77*		ng/L	9.869		78.8	30-130			
Surrogate: 13C2-PFDoA	*7.21*		ng/L	9.869		73.1	10-130			
Surrogate: 13C2-PFTeDA	*6.32*		ng/L	9.869		64.0	10-130			
Surrogate: 13C3-PFBS	*15.7*		ng/L	19.74		79.7	40-135			
Surrogate: 13C3-PFHxS	*17.3*		ng/L	19.74		87.8	40-130			
Surrogate: 13C8-PFOS	*16.7*		ng/L	19.74		84.4	40-130			
Surrogate: 13C2-4:2FTS	*36.9*		ng/L	39.48		93.4	40-200			
Surrogate: 13C2-6:2FTS	*36.1*		ng/L	39.48		91.6	40-200			
Surrogate: 13C2-8:2FTS	*33.0*		ng/L	39.48		83.5	40-300			
Surrogate: 13C8-PFOSA	*13.2*		ng/L	19.74		67.0	40-130			
Surrogate: D3-NMeFOSA	*13.3*		ng/L	19.74		67.2	10-130			
Surrogate: D5-NEtFOSA	*12.3*		ng/L	19.74		62.1	10-130			
Surrogate: D3-NMeFOSAA	*33.7*		ng/L	39.48		85.3	40-170			
Surrogate: D5-NEtFOSAA	*32.4*		ng/L	39.48		82.1	25-135			
Surrogate: D7-NMeFOSE	*115*		ng/L	197.4		58.2	10-130			
Surrogate: D9-NEtFOSE	*111*		ng/L	197.4		56.4	10-130			
Surrogate: 13C3-HFPO-DA	*80.1*		ng/L	78.95		102	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
D-01	Sample extracted/prepared at a dilution due to sample matrix.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Pace Analytical Services, LLC - East Longmeadow, Ma

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanoic acid (PFNA)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,WV,PA,VA,NJ,LA
EPA 1633 in Water	
Perfluorobutanoic acid (PFBA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Water	
Perfluorononanoic acid (PFNA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	CT,NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	CT,NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	CT,NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	CT,NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2026
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VA	Commonwealth of Virginia	460217	12/14/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025
LA	State of Louisiana Dept. of Env. Quality Office of Env. Services	05130	06/30/2025

25D0377

Pace

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 2

Company Name:	Michael Baker Int'l
Address:	100 Airside Dr 15108
Phone:	412-269-6300
Project Name:	Saegertown PFAS
Project Location:	Saegertown, PA
Project Number:	189432
Project Manager:	Chris Kupfer
Con-Test Quote Name/Number:	513140
Invoice Recipient:	MBI
Sampled By:	B. Mikula / A. Lacy

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakercorp.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAs EPA 1633
1	BMW-2	4/2/25	1315	G	GW				2			X
2	BMW-3	"	1615	"	"				"			"
3	BMW-10		1620									
	BMW-10MS		1620									
	BMW-10MSD		1620									
4	FB-0425		1650		W				1			
5	PW-1	4/3/25	0940		GW				2			
	PW-1MS		0940						2			
	PW-1MSD		0940						2			
6	PW-2		1030						2			

[2] Preservation Code

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 4/3/25 1330
Received by: (signature) Romeo Mack/Pace	Date/Time: 4/3/25 1339
Relinquished by: (signature)	Date/Time: 4/3/25
Received by: (signature) Buffalo SVC	Date/Time: 4/3/25
Relinquished by: (signature)	Date/Time: 4/3/25 16:37
Received by: (signature)	Date/Time: 4/3 23:30
Relinquished by: (signature)	Date/Time: 4/4 0230
Received by: (signature)	Date/Time: 4/4/25 0200

Client Comments:

Detection Limit Requirements

Special Requirements
- ☐ MA MCP Required
- MCP Certification Form Required
- ☐ CT RCP Required
- RCP Certification Form Required
- ☐ MA State DW Required
- PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

25D0377

ALL SHADED AREAS are for LAB USE ONLY

Company: Michael Baker Int'l	Billing Information:
Address: 100 Airside Dr 15108	
Report To: Chris Kupfer	Email To: ckupfer@mbakerintl.com
Copy To:	Site Collection Info/Address: Saegertown
Customer Project Name/Number: Saegertown PFAS 189432	State: PA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 412-269-6300 Email:	Site/Facility ID #: Saegertown PFAS Site
Collected By (print): B. Mikula / A. Lavy	Purchase Order #: Quote #: 513140
Collected By (signature):	Turnaround Date Required: PFAS 15 Day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Compliance Monitoring? [ ] Yes [X] No	DW PWS ID #: DW Location Code:
Immediately Packed on Ice: [X] Yes [ ] No	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Container Preservative Type **: 4

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: PFAs EPA 1633
7	PW-6	GW	G	4/3/25	1055					X
8	PW-6 Dup				1100					
9	PW-7				1120					
10	EB-02-0425	W			1150					
11	FDW-AB-0425	GW	C		1230					
12	IDW-SOIL-0425	S	C		1240					

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2667182

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments:

	Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
1	MBI	4/3/25 1330	Pace/Courier	4/3/25 1330
2	Pace/Courier	4/3/25	Buffalo SC	4/3/25
3		4-3-25 16:37		4/3 23:30
		4/4 08:00		4.4 4/4/25 700

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 2 of: 2

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker Intl

Project Susquehanna PFAS

MCP/RCP Required MA

Deliverable Package Requirement MA

Location Sweegertown PA

PWSID# (When Applicable) MA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 4/4/25 1200

Back-Sheet By / Date / Time LA 4/4/25 1425

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp ✓ < 6° C Actual Temperature 4.9

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL		2	1	6	-	8	2					+									
Sulfuric																						
Unpreserved	250mL													-								
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Qualtrax ID: 120836

Page 2 of 2

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EPA Lab ID: PA01733

NELAP
PA 08-05622
NY 12127

Michael Baker Intl.
100 Airside Dr.
Coraopolis, PA 15108

Project: Saegertown PFAS Site

Project Number: 189432

Reported:

Project Manager: Christopher Kupfer

04/21/25 17:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
IDW-AQ-0425	AZD1298-01	Water	Composite	04/03/25 12:30	04/07/25 09:10
IDW-SOIL-0425	AZD1298-02	Solid	Composite	04/03/25 12:40	04/07/25 09:10

Pace Analytical Services, LLC

Reviewed and Submitted by:

John R McNair Jr
Project Manager

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Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Analyses to be performed immediately upon sampling. See Definition indicated by: #								
# pH @ 19.68°C	7.72			pH Units	04/09/25 12:05	SM 4500-H+B-11	ztb	
Conventional Chemistry Parameters by SM/EPA Methods								
% Solids	<0.100		0.100	%	04/07/25 14:43	SM 2540 G-11	ers	
Total Dissolved Solids	368		20.0	mg/l	04/08/25 16:02	SM 2540C-15	ark	
Specific Gravity	1.001		0.300	-	04/08/25 16:05	SM 2710F	ers	
Metals by EPA 245.1								
Mercury	<0.000200		0.000200	mg/l	04/09/25 10:21	EPA 245.1/3.0	RLG	
Metals by Prep Method EPA 200.2								
Silver	<0.00400		0.00400	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Arsenic	<0.00800		0.00800	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Barium	0.0624		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Cadmium	<0.00400		0.00400	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Chromium	<0.00500		0.00500	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Copper	<0.0100		0.0100	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Nickel	<0.0500		0.0500	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Lead	<0.00800		0.00800	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	

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Project Manager: Christopher Kupfer

Project: Saegertown PFAS Site

Project Number: 189432

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Metals by Prep Method EPA 200.2								
Selenium	<0.0200		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Zinc	<0.0200		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Physical Parameters by APHA/ASTM/EPA Methods								
Ignitability by Flashpoint	>94.1 °C		15.0	°C	04/11/25 21:10	EPA 1010 -	dmm	G1
Reactive Cyanide	<0.200		0.200	mg/l	04/14/25 15:10	EPA 7.3.3.2(CN)/9014	jtd	
Reactive Sulfide	<1.00		1.00	mg/l	04/14/25 10:40	EPA 7.3.4.2/9034	jtd	
Semivolatile Organic Compounds by EPA Extraction Method 3510C								
2,4,5-Trichlorophenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2,4,6-Trichlorophenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2,4-Dinitrotoluene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2-Methylphenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
3 & 4-Methylphenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Hexachlorobenzene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Hexachlorobutadiene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Nitrobenzene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Pentachlorophenol	<25.0		25.0	ug/l	04/11/25 09:47	EPA 8270D -	CEK	

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Project Number: 189432

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Semivolatile Organic Compounds by EPA Extraction Method 3510C								
Pyridine	<10.0		10.0	ug/l	04/11/25 09:47	EPA 8270D -	CEK	D, F
Surrogate: 2-Fluorophenol		*29 %*	*11.2-56.9*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Phenol-d6		*21 %*	*10-40.1*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Nitrobenzene-d5		*42 %*	*17.1-88.1*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: 2-Fluorobiphenyl		*50 %*	*20.4-94.5*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: 2,4,6-Tribromophenol		*74 %*	*36.5-125*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Terphenyl-d14		*88 %*	*32.2-144*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Volatile Organic Compounds by EPA Method 8260B/Prep Method 5030B								
1,1-Dichloroethane	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
2-Butanone	4.74		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Benzene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Carbon tetrachloride	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Chlorobenzene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Chloroform	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Tetrachloroethene	1.69		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Trichloroethene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Vinyl chloride	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Surrogate: 1,2-Dichloroethane-d4		*99.7 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	

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Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B/Prep Method 5030B								
Surrogate: Fluorobenzene		*96.9 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	

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(814) 946-4306

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NELAP
PA 07-00062
VA 460212

State Certifications:
MD 275
WV WW/SCM 364
WV DW 9963 CM

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(814) 371-6030

EPA Lab ID: PA01735

PA DEP Chapter 252
PA 33-00258

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Erie, PA 16510
(814) 315-4343

EPA Lab ID: PA01736

NELAP
PA 25-05907
NY 12175

Pace Wysox
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Wysox, PA 18854
(570) 265-5040

EPA Lab ID: PA01733

NELAP
PA 08-05622
NY 12127

Michael Baker Intl.
100 Airside Dr.
Coraopolis, PA 15108

Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-SOIL-0425**

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: **AZD1298-02 (Solid/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Analyses to be performed immediately upon sampling. See Definition indicated by: #								
# pH @ 21°C	8.44			pH Units	04/09/25 14:45	SW846-9045 D	ztb	
Conventional Chemistry Parameters by SM/EPA Methods								
% Solids	86.2		0.100	%	04/07/25 14:43	SM 2540 G-11	ers	
Physical Parameters by APHA/ASTM/EPA Methods								
Ignitability - Burn Rate	<2.20		2.20	mm/sec	04/10/25 22:30	EPA 1030	dmm	G6
Reactive Cyanide by Preparation Method EPA 7.3.3.2								
Reactive Cyanide	<1.16		1.16	mg/kg dry	04/09/25 13:59	EPA 7.3.3.2(CN)/9014	jtd	
Reactive Sulfide by Preparation Method EPA 7.3.4.2								
Reactive Sulfide	<23.1		23.1	mg/kg dry	04/09/25 09:30	EPA 7.3.4.2/9034	jtd	
TCLP Extracted Analyses by EPA 1311								
Mercury	0.0172		0.00200	mg/l	04/09/25 13:41	SW EPA 7471B	RLG	
TCLP Extraction by EPA 1311								
# pH @ 22.6°C	5.34			pH Units	04/09/25 08:20	EPA 1311	app	

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Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: IDW-SOIL-0425

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: AZD1298-02 (Solid/Composite)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Metals extracted by EPA 1311/Preparation Method 3010A								
Silver	<0.0200		0.0200	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Arsenic	<0.0400		0.0400	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Barium	1.03		0.500	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Cadmium	<0.0200		0.0200	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Chromium	<0.0250		0.0250	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Copper	<0.0500		0.0500	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Nickel	<0.250		0.250	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Lead	<0.0400		0.0400	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Selenium	<0.100		0.100	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Zinc	0.117		0.100	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
TCLP Semivolatile Organic Compounds by EPA 1311/Extraction Method 3510C								
1,4-Dichlorobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	

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Project: Saegertown PFAS Site

Project Number: 189432

Reported:

Project Manager: Christopher Kupfer

04/21/25 17:39

Client Sample ID: IDW-SOIL-0425

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: AZD1298-02 (Solid/Composite)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Semivolatile Organic Compounds by EPA 1311/Extraction Method 3510C								
2,4,5-Trichlorophenol	<50.0		50.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2,4,6-Trichlorophenol	<50.0		50.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2,4-Dinitrotoluene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2-Methylphenol	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
3 & 4-Methylphenol	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachlorobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachlorobutadiene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachloroethane	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Nitrobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Pentachlorophenol	<25.0		25.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Pyridine	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	L
Surrogate: 2-Fluorophenol		*32.8 %*	*11.2-56.9*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Phenol-d6		*20.6 %*	*10-40.1*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Nitrobenzene-d5		*59.5 %*	*17.1-88.1*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: 2-Fluorobiphenyl		*56.0 %*	*20.4-94.5*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: 2,4,6-Tribromophenol		*47.9 %*	*36.5-125*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Terphenyl-d14		*83.0 %*	*32.2-144*		*04/15/25 11:10*	*EPA 8270D -*	cek	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								
1,1-Dichloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	

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Michael Baker Intl.
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Coraopolis, PA 15108

Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-SOIL-0425**

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: **AZD1298-02 (Solid/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								
1,2-Dichloroethane	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
2-Butanone	<500		500	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Benzene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Carbon tetrachloride	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Chlorobenzene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Chloroform	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Tetrachloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Trichloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Vinyl chloride	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Surrogate: 1,2-Dichloroethane-d4		*98.5 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	
Surrogate: 4-Bromofluorobenzene		*106 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	
Surrogate: Fluorobenzene		*97.8 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	

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04/21/25 17:39

Notes

D	A Continuing Calibration Verification (CCV) analyzed with the analytical batch recovered above the acceptance range for the noted analyte.
F	The Laboratory Control Sample (LCS) analyzed with this preparation batch recovered above the acceptance range for the noted analyte.
G1	No flash detected up to 94.1 °C.
G6	According to EPA Method 1030/40 CFR 261.21, this sample did not have a burning rate greater than 2.2mm/second and is therefore not considered to have a positive result for ignitability.
L	The noted analyte was detected in the method blank.

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04/21/25 17:39

Definitions:

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

\+ MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Unless otherwise noted, all results for solids are reported on a dry weight basis.

Samples collected by Pace Labs' personnel are done so in accordance with Standard Operating Procedures established by Pace Labs.

\# The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory; and should be considered as analyzed outside the EPA holding time.

^ The following analytes are to be filtered immediately upon sampling: Hexavalent Chromium. Filtration through a 0.45 micron filter within 15 minutes of sampling is required for compliance with the Clean Water Act (CWA) for reporting of hexavalent chromium to prevent interconversion of chromium species.

* **Analysis location indicator:**
D: Indicates analysis performed by Pace Analytical Laboratories, LLC, 40 Hoover Ave., DuBois, PA 15801. PA DEP Chapter 252 certification: PA 33-00258.
E: Indicates analysis performed by Pace Analytical Laboratories, LLC, 1920 East 38th Street, Erie, PA 16510. NELAP certification: PA 25-05907.
W: Indicates analysis performed by Pace Analytical Laboratories, LLC, 1851 Golden Mile Rd., Wysox, PA 18854. NELAP certification: PA 08-05622 and NY 12127.

< Represents "less than" - indicates that the result was less than the RL, or the MDL if indicated for the parameter.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values. If Radiological results are reported, the MDC - Minimum Detectable Concentration is shown in the MDL column.

Definitions Continued:

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04/21/25 17:39

RL	Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.
[CALC]	Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.
ND	Non Detect. The noted analyte was not detected in the sample.

(-) Method Revision Indicator - West Virginia Samples

CALC- : Indicates analysis by SM2340 B-2011. This method appears on the WV DEP List of Certified Parameters but the PA DEP does not offer accreditation for this method.
EPA 8270D - : Indicates that samples collected in West Virginia are analyzed by Method SW 8270E.
EPA 8260B - : Indicates that samples collected in West Virginia are analyzed by Method SW 8260D.
EPA 8015D - : Indicates that samples collected in West Virginia are analyzed by Method SW 8015C.
EPA 1010 - : Indicates that samples collected in West Virginia are analyzed by Method SW 1010B.
EPA 6010B - : Indicates that samples collected in West Virginia are analyzed by Method SW 6010D.

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Project: Saegertown PFAS Site

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04/21/25 17:39

Terms & Conditions

Services provided by Pace Analyitcal Services, LLC are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Pace Analytical Services, LLC ("Pace", "us", or "we") will provide, upon client request, chain of custody forms for use.

CONFIDENTIALITY Pace maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Pace's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Pace reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Pace are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Pace shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Pace. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody. Samples received at the laboratory after business hours are verified on the next business day. Discrepancies are documented on the Receiving Document.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Pace. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Pace routinely provides verbal or email results within 10 working days of receipt of sample(s). If requested, a hard copy of the data results are routinely sent via US Postal Service within 10 working days. At the request of the client, Pace may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Pace. Pace reserves the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Pace in accordance with their retention policy.

SAMPLE DISPOSAL Pace will maintain samples for four (4) weeks after the sample receipt date. Pace will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Pace reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Pace warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Pace does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Pace Analyitcal Services, LLC shall be invoiced by Pace and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l
Street Address: 100 AirSide Dr
Moon Twp, PA 15108
Customer Project #: 189432
Project Name: Saegertown PFAS Site
Site Collection Info/Facility ID (as applicable): Saegertown, PA

Contact/Report To: Chris Kupfer
Phone #: 412-269-6300
E-Mail: ckupfer@mbakerintl.com
Cc E-Mail:

Invoice To: MBI
Invoice E-Mail: ckupfer@mbakerintl.com
Purchase Order # (if applicable): AZD1298
Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): Crawford, PA

Data Deliverables:
[X] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other ____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCLP RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment	Preservation non-conformance identified for sample
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8V	
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra Soil included	5, 8V

Specify Container Size **
Identify Container Preservative Type***
Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100ml, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr:
AcctNum / Client ID:
Table #:
Profile / Template:
Prelog / Bottle Ord. ID:

Additional Instructions from Pace®:

Collected By:
(Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: Thermometer ID: PC-12 Correction Factor (°C): Obs. Temp. (°C) Corrected Temp (°C) On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula / MBI	4/7/25 0910		4/7/25 1110
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michaud / Baker	WORK ORDER	AZD1291
DATE	4/7/25	TIME	9:20
INITIALS	JD	PAGE	2 OF 2
RECEIVED TEMP (C°)	6.8°c	WERE TEMPS ACCEPTABLE BASED ON SAMPLE DATE/TIME?	(Y) IF NO, EXPLAIN: CLIENT NOTIFICATION REQUIRED N
RECEIVED ON ICE?	(Y) N		
AM TEMP GUN ID	IR-12		
AM TEMP <6°C	(Y) N NA		
CUSTODY SEALS?	Y (N) NA		
SEALS INTACT?	Y N (NA)		

WATER TEMPS SHOULD BE ABOVE FREEZING TO 6.0°C
~FOR PA SAMPLES: >6°C OK WHEN COLLECTED SAME CALENDAR DAY AS RECEIPT, WHEN ON ICE, WITH EVIDENCE OF COOLING~

CHAIN OF CUSTODY (COC)

DID COC ACCOMPANY SAMPLES?	(Y) N	SAMPLE LOCATION/DESCRIPTION/ID?	(Y) N
IF NO TO ANY QUESTION, COC IS INCOMPLETE AND REQUIRES ATTENTION!		NAME or INITIALS of SAMPLE COLLECTOR?	(Y) N
IF PWS, DOES COC CONTAIN:		COMPLETE DATES/TIMES ?	(Y) N
7-DIGIT PWS ID?	Y N	GRAB/COMPOSITE NOTED?	(Y) N
PWS SAMPLE ID?	Y N	RELINQUISHED SIGNATURE?	(Y) N
CONTACT NAME?	Y N ON RECORD	RECEIVED SIGNATURE?	(Y) N
CONTACT NUMBER?	Y N ON RECORD	#NUMBER OF CONTAINERS PER SAMPLE?	(Y) N
IS SAMPLE REPORTABLE?	Y N	#PRESERVATION TYPE(S)?	(Y) N
7-DIGIT PWS ID & PWS SAMPLE ID MUST BE RECORDED ON COC			

 # If the COC does not list the containers/preservative received for each sample, fill out page 2 of this document. If page 2 is not required, it will not be included as part of the sample record.

BOTTLEWARE & PRESERVATION

SAMPLE BOTTLES INTACT?	(Y) N	IF NO, EXPLAIN:	
SAMPLE LABELS MATCH COC? (ID, DATE, TIME)	(Y) N	IF NO, EXPLAIN:	
CORRECT CONTAINERS?	(Y) N	IF NO, EXPLAIN:	
ADEQUATE VOLUME OF SAMPLE PROVIDED?	(Y) N	IF NO, EXPLAIN:	
HEADSPACE? Y (N) NA *Volatiles, Odor, Ignitability, Sulfide*	FIELD FILTERED? Y N (NA) *Dissolved Analyses, Hex Cr, Ortho-Phos*	TRIP BLANKS? Y (N) NA *Required for 524.2 Volatiles, EDB/DBCP*	
ALL CONTAINER PRESERVATION MEETS REQUIREMENTS?	(Y) N NA	IF NO, EXPLAIN:	
PRESERVATION CHECKED	DATE 4/7/25	TIME 9:25	INITIALS JD
PRESERVATION ADDED	____ mL Added DATE	TIME	INITIALS

PRESERVATIVE:	ELEMENT ID:	pH STRIPS ELEMENT ID	SAMPLES LABELED BY	DATE
		5B240512	INITIALS	4/07/25
			TIME	1330

CLIENT NOTIFICATION

FILL OUT THE FOLLOWING:

DATE/TIME	REASON FOR CONTACT
PAS-ALTOONA EMPLOYEE	OUTCOME OF DISCUSSION
PERSON CONTACTED	ADDITIONAL NOTES
CIRCLE METHOD PHONE / EMAIL / OTHER	

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT: Michael Baker | WORK ORDER: A2D1298 | PAGE: 3 OF 3

INITIALS: JD | DATE: 4/7/25 | TIME: 9:20

If the COC does not list the containers/preservative received for each sample, record below.

Possible Container Preservatives (NP = Not Preserved)					
HCl	Hydrochloric Acid	HNO_3	Nitric Acid	$Na_2S_2O_3$	Sodium Thiosulfate
$C_6H_8O_6$	Ascorbic Acid	EDA	Ethylenediamine	$NaHSO_4$	Sodium Bisulfate
ZnAce	Zinc Acetate	NaOH	Sodium Hydroxide	$(NH_4)_2SO_4$	Ammonium Sulfate Buffer
MeOH	Methanol	NH_4Cl	Ammonium Chloride	H_2SO_4	Sulfuric Acid

Possible Container Materials/Types	Possible Container Sizes
P - Plastic, AG - Amber, G - Glass, B - Baggie, C - Cubitainer, O - Other (OTHER MUST BE SPECIFIED)	1gal, 120mL (Bacti), 125mL, 1L, 2oz, 2.5gal, 250mL, 300mL, 32oz, 4oz, 40mL (Vial), 5gal, 500mL, 8oz

IF USED, SAMPLE FRACTION MUST ALSO BE RECORDED ON COC — ADD ONE CONTAINER TYPE PER LINE

Sample Fraction	Sample Description	Container Type	Container Size (MUST CONTAIN UNITS)	Preservative(s)	# of Type Received	Comments
	01	AG	1L	NP	1	
		P	1L	NP	2	
		P	250ml	HNO_3	1	<2
		G	40 ml	HCl	2	
	02	G	32oz	NP	6	

Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l
Street Address: 100 AirSide Dr
Moon Twp, PA 15108
Customer Project #: 189432
Project Name: Saegertown PFAS Site
Site Collection Info/Facility ID (as applicable): Saegertown, PA

Contact/Report To: Chris Kupfer
Phone #: 412-269-6300
E-Mail: ckupfer@mbakerintl.com
Cc E-Mail:

Invoice To: MBI
Invoice E-Mail: ckupfer@mbakerintl.com
Purchase Order # (if applicable): AZD1298
Quote #:
County / State origin of sample(s): Crawford, PA

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other ____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCL II RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8260
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra soil included 8260

Specify Container Size **
Identify Container Preservative Type***
Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 50mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By: (Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	AC-2				

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula / MBI	4/7/25 0910		4/7/25 0910
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

Page: 1 of 1

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SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michaud / Baker	WORK ORDER	AZD1291
DATE	4/7/25	TIME	9:20
INITIALS	JD	PAGE	2 OF 2
RECEIVED TEMP (°C)	6.8°c	WERE TEMPS ACCEPTABLE BASED ON SAMPLE DATE/TIME?	(Y) IF NO, EXPLAIN: CLIENT NOTIFICATION REQUIRED
RECEIVED ON ICE?	(Y) N		
AM TEMP GUN ID	IR-12		
AM TEMP <6°C	(Y) N NA		
CUSTODY SEALS?	Y (N) NA		
SEALS INTACT?	Y N (NA)		

WATER TEMPS SHOULD BE ABOVE FREEZING TO 6.0°C
~FOR PA SAMPLES: >6°C OK WHEN COLLECTED SAME CALENDAR DAY AS RECEIPT, WHEN ON ICE, WITH EVIDENCE OF COOLING~

CHAIN OF CUSTODY (COC)

DID COC ACCOMPANY SAMPLES?	(Y) N	SAMPLE LOCATION/DESCRIPTION/ID?	(Y) N
IF NO TO ANY QUESTION, COC IS INCOMPLETE AND REQUIRES ATTENTION!		NAME or INITIALS of SAMPLE COLLECTOR?	(Y) N
		COMPLETE DATES/TIMES ?	(Y) N
IF PWS, DOES COC CONTAIN:		GRAB/COMPOSITE NOTED?	(Y) N
7-DIGIT PWS ID?	Y N	RELINQUISHED SIGNATURE?	(Y) N
PWS SAMPLE ID?	Y N	RECEIVED SIGNATURE?	(Y) N
CONTACT NAME?	Y N ON RECORD	#NUMBER OF CONTAINERS PER SAMPLE?	(Y) N
CONTACT NUMBER?	Y N ON RECORD	#PRESERVATION TYPE(S)?	(Y) N
IS SAMPLE REPORTABLE?	Y N	* If the COC does not list the containers/preservative received for each sample, fill out page 2 of this document. If page 2 is not required, it will not be included as part of the sample record.	
7-DIGIT PWS ID & PWS SAMPLE ID MUST BE RECORDED ON COC			

BOTTLEWARE & PRESERVATION

SAMPLE BOTTLES INTACT?	(Y) N	IF NO, EXPLAIN:	
SAMPLE LABELS MATCH COC? (ID, DATE, TIME)	(Y) N	IF NO, EXPLAIN:	
CORRECT CONTAINERS?	(Y) N	IF NO, EXPLAIN:	
ADEQUATE VOLUME OF SAMPLE PROVIDED?	(Y) N	IF NO, EXPLAIN:	

HEADSPACE? Y (N) NA *Volatiles, Odor, Ignitability, Sulfide*	FIELD FILTERED? Y N (NA) *Dissolved Analyses, Hex Cr, Ortho-Phos*	TRIP BLANKS? Y (N) NA *Required for 524.2 Volatiles, EDB/DBCP*

ALL CONTAINER PRESERVATION MEETS REQUIREMENTS?	(Y) N NA	IF NO, EXPLAIN:	
PRESERVATION CHECKED	DATE 4/7/25	TIME 9:15	INITIALS JD
PRESERVATION ADDED	_____ mL Added DATE	TIME	INITIALS

PRESERVATIVE:	ELEMENT ID:	pH STRIPS ELEMENT ID 5B24052	SAMPLES LABELED BY	DATE	04/07/25
			INITIALS	TIME	1330

CLIENT NOTIFICATION *FILL OUT THE FOLLOWING:*

DATE/TIME	REASON FOR CONTACT
PAS-ALTOONA EMPLOYEE	OUTCOME OF DISCUSSION
PERSON CONTACTED	ADDITIONAL NOTES
CIRCLE METHOD PHONE / EMAIL / OTHER	

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michael Baker	WORK ORDER	A2D1298	PAGE	3 OF 3
INITIALS	JD	DATE	4/7/23	TIME	9:20

If the COC does not list the containers/preservative received for each sample, record below.

Possible Container Preservatives (NP = Not Preserved)

HCl	Hydrochloric Acid	HNO_3	Nitric Acid	$Na_2S_2O_3$	Sodium Thiosulfate
$C_6H_8O_6$	Ascorbic Acid	EDA	Ethylenediamine	$NaHSO_4$	Sodium Bisulfate
ZnAce	Zinc Acetate	NaOH	Sodium Hydroxide	$(NH_4)_2SO_4$	Ammonium Sulfate Buffer
MeOH	Methanol	NH_4Cl	Ammonium Chloride	H_2SO_4	Sulfuric Acid

Possible Container Materials/Types	***Possible Container Sizes***
P - Plastic, AG - Amber, G - Glass, B - Baggie, C - Cubitainer, O - Other (OTHER MUST BE SPECIFIED)	1gal, 120mL (Bacti), 125mL, 1L, 2oz, 2.5gal, 250mL, 300mL, 32oz, 4oz, 40mL (Vial), 5gal, 500mL, 8oz

IF USED, SAMPLE FRACTION MUST ALSO BE RECORDED ON COC — ADD ONE CONTAINER TYPE PER LINE

Sample Fraction	Sample Description	Container Type	Container Size MUST CONTAIN UNITS	Preservative(s)	# of Type Received	Comments
	01	AG	1L	NP	1	
		P	1L	NP	2	
		P	250ml	HNO_3	1	<2
		G	40 ml	HCl	2	
	02	G	32oz	NP	6	

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

April 21, 2025

John McNair
Pace Analytical - Altoona, PA
2019 Ninth Avenue
Altoona, PA 16602

RE: Pace Altoonia AZD1298

Dear John McNair:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **4/11/25 11:50 am** and logged in under work order **ID02404**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise . We are always trying to improve our customer service and we welcome you to contact the General Manager, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

Jennifer L Solomon
Client Services Manager
(309)683-1721
jennifer.solomon@pacelabs.com

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

ANALYTICAL RESULTS

Sample: ID02404-01
Name: AZD1298-02
Matrix: Solid

Sampled: 04/03/25 12:40
Received: 04/11/25 11:50

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Density	1.1	g/cc		04/21/25 13:07	1		04/21/25 13:26	AAG	SM 2710F MOD*

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B530666 - 04-No Prep WC Solid - SM 2710F MOD									
Duplicate (B530666-DUP1)	**Sample: ID02404-01**			Prepared & Analyzed: 04/21/25					
Density	1.10	g/cc			1.11			0.6	20

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Certified by: Jill Clarke For Jennifer L Solomon, Client Services Manager

SUBCONTRACT ORDER

Pace Altoona

AZD1298

ID 02404

SENDING LABORATORY:

Pace Altoona
2019 Ninth Avenue
Altoona, PA 16602
Phone: 814.946.4306
Fax: 814.946.8791
Project Manager: John R McNair Jr

RECEIVING LABORATORY:

Pace Analytical Services Inc. Hazelwood, MO
944 Anglum Road
Hazelwood, MO 63042
Phone :(314) 432-0550
Fax:

***PA Drinking Water samples with a PWSID provided must be uploaded to DWELR unless otherwise marked.

Due 4/20/2025

Water Type: ☐ Drinking Water ☐ Non Potable Water

State: PA WV VA OH MD

☐ RADS only - Non potable Water - Gamma

PWS ID Number: **Name of System:**

Contact Name: **Contact Number:**

Sample ID: AZD1298-02 **Solid** **Composite** **Location ID** **Comments:**

Sample Name: IDW-SOIL-0425

Analysis	Sample Begin	Sample End
SUB- Density	4/3/2025 12:40	04/03/25 12:40

Containers Supplied:
32oz Jar (F)

IR Gun # G8 Correction Factor (Deg C) -0.2
Observed Temp (Deg C) 5.5 Corrected Temp (Deg C) 5.3
Delivery Method: FedEx UPS Walk-in USPS Other

1/31/23 Update to Pace email address
***NEW* Email PDF Report & Excel EDD to:**
ALTO.SubContract@pacelabs.com
For questions call:
Troy Tyler - 814-800-4027
Michelle Fye - 814-800-4012

Client
Sampled By

Released By	Date	Received By	Date
DF	14:00 4/9/25	[signature]	4-11-25 1150
Released By	Date	Received By	Date

Sampler signatures provided on original COC.

Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l	Contact/Report To: Chris Kupfer
Street Address: 100 AirSide Dr, Moon Twp, PA 15108	Phone #: 412-269-6300
Customer Project #: 189432	E-Mail: ckupfer@mbakerintl.com
Project Name: Saegertown PFAS Site	Cc E-Mail:
Site Collection Info/Facility ID (as applicable): Saegertown, PA	Invoice To: MBI
	Invoice E-Mail: ckupfer@mbakerintl.com
	Purchase Order # (if applicable): AZD1298
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET	County / State origin of sample(s): Crawford, PA

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable. Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCLP RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment	Preservation non-conformance identified for sample
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8V	
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra Soil included	5,4V

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Additional Instructions from Pace®:

Collected By: (Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp (°C)	Corrected Temp (°C)	On Ice:
	AC-R				

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula/MBI	4/7/25 0910		4/7/25 0910
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-PEOR-0098 v04_Sample Condition Upon Receipt

Client Name: PACE-Altoona Work Order #: 1D02404 Completed by / Date: MG 4-11-25

Custody seal on cooler/box present and seal intact:	☐Yes ☐No ☑N/A	
Chain of Custody (CoC) Present:	☑Yes ☐No	
CoC is Legible:	☑Yes ☐No	
Sampler Name Present on COC:	☐Yes ☑No	yes-mg 4-11-25
Sampler Signature Present on CoC:	☐Yes ☑No	
Sample Collection Date Present on CoC:	☑Yes ☐No	
Sample Collection Time Present on CoC:	☑Yes ☐No	
CoC Relinquished by Client:	☑Yes ☐No	
Unique Sample ID's Present on CoC:	☑Yes ☐No	
CoC and Sample Container Labels Match:	☑Yes ☐No	
Sample chilling process started prior to receipt: If yes, what type of ice:	☐Yes ☐No ☐N/A ☐Wet ☐Blue	
Samples received within temperature compliance: (≤ 6°C,but above freezing or received same day collected and chill process started prior to receipt)	☐Yes ☐No ☐N/A	
Container(s) Received Intact:	☑Yes ☐No	
Containers Received Labeled and Labels are Legible:	☑Yes ☐No	
Appropriate Bottles Received for Analysis Requested:	☑Yes ☐No	
Sufficient Sample Volume Received:	☑Yes ☐No	
USDA Regulated Soil: Country of Origin: _____ State of Origin:	☐Yes ☐No ☑N/A	
Trip Blank(s) Received: If present, are they Listed on CoC:	☐Yes ☐No ☑N/A ☐Yes ☐No	
VOA vials are free of any headspace larger than pea sized bubble (>6mm) – Applies to methods 8260, 624, 524.2 - including THM vials If headspace is present, note sample ID and # of vials	☐Yes ☐No ☑N/A	
All (Non-Field) Analysis Received Within Hold Times:	☑Yes ☐No	
Rush Turn Around Time Requested:	☐Yes ☑No	NO-mg 4-11-25
Short Hold Time Analysis (48 Hours or Less):	☐Yes ☑No	

Client Notification/ Resolution: If checked, please see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample.

WORK ORDER #: 1D02404 INITIALS: MG

Item # / Test										
P, U, 1000ml - Total										
P, U, 250ml										
P, U, 500ml - Total										
P, U, 500ml - Diss										
P, 250ml/500ml H_2SO_4 - Total										
P, 250ml/500ml H_2SO_4 - Diss										
P, 250ml/500ml NaOH										
P, 250ml/500ml HNO_3 - Total										
P, 250ml/500ml HNO_3 - Diss										
P, 500ml NaOH + ZnAc										
P, U, 150ml/4oz TC										
P, 2.5L HNO_3										
P, U, 2.5L										
P, U, 50ml										
S, P, 120ml $Na_2S_2O_3$										
P, 16oz - Soil/Sludge										
Amber Glass Bottles - Vials										
A, G, U, 1000ml										
A, G, 1000ml HCl										
A, G, 1000ml $MeCl_2$										
A, G, 500ml H_2SO_4										
A, G, U, 500ml										
A, G, U, 250ml H_2SO_4										
A, G, U, 250ml										
A, V, 40ml H_2SO_4										
A, V, U, 60ml										
Clear Glass Bottles - Soil/Sludge Jars, Vials										
C, G, 1000ml HCl										
C, G, U, 1000ml	1									
C, G, U, 250ml - LLHg										
C, G, U, 250ml - LLHg - FB										
C, G, 16oz - Soil Jar										
C, G, 9oz - Soil Jar										
C, G, 4oz - Soil Jar										
C, G, 2oz - Soil Jar										
C, V, 40ml TSP										
C, V, 40ml HCl										
C, V, U, 40ml										
C, V, 40ml $Na_2S_2O_3$										
C, V, 40ml MeOH										
C, V, 40ml Sodium Bisulfate										
C, V, U, 60ml										
Other Containers										
Description										

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Chris Kupfer
Michael Baker International, Inc.
Airside Business Park
100 Airside Drive
Moon Township, Pennsylvania 15108

Generated 4/21/2025 9:53:17 AM

JOB DESCRIPTION

DEP Saegertown PFAS

JOB NUMBER

180-188862-1

Eurofins Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh PA 15238

See page two for job notes and contact information.

my EOL

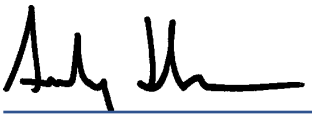
Job Notes

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

PA Lab ID: 02-00416

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

Authorization



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4/21/2025 9:53:17 AM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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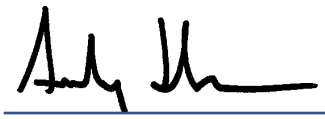
WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



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Job ID: 180-188862-1 Eurofins Pittsburgh

Job Narrative
180-188862-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 4/7/2025 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.8°C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): IDW-SOIL-0425 (180-188862-1). The container labels list the sample collection time as 12:40, while the COC lists 12:30. Sample logged as 12:40 per the client.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): IDW-AQ-0425 (180-188862-2). The container labels list the sample collection time as 12:30, while the COC lists 12:40. Sample logged as 12:30 per the client.

The following samples were received at the laboratory outside the required temperature criteria: IDW-SOIL-0425 (180-188862-1) and IDW-AQ-0425 (180-188862-2). This does not meet regulatory requirements.

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

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

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

Definitions/Glossary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.

Glossary

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

Accreditation/Certification Summary

Client: Michael Baker International, Inc.
Job ID: 180-188862-1
Project/Site: DEP Saegertown PFAS

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

Sample Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-188862-1	IDW-SOIL-0425	Solid	04/03/25 12:40	04/07/25 12:20
180-188862-2	IDW-AQ-0425	Water	04/03/25 12:30	04/07/25 12:20

Method Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
537 (mod)	EPA 537 Isotope Dilution	EPA	ELLE
Extract Aliquot	Preparation, Extract Aliquot	None	ELLE
SPE	PFAS by SPE	Lab SOP	ELLE

Protocol References:

EPA = US Environmental Protection Agency

Lab SOP = Laboratory Standard Operating Procedure

None = None

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Client Sample ID: IDW-SOIL-0425
Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			628143	04/09/25 07:05	UVJN	ELLE
	Instrument ID: NOEQUIP									

Client Sample ID: IDW-SOIL-0425
Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1
Matrix: Solid
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.35 g	10 mL	631794	04/17/25 02:16	UBKG	ELLE
Total/NA	Analysis	8082A		1	1 uL	1 uL	631963	04/17/25 10:11	M6UH	ELLE
	Instrument ID: 17342									
Total/NA	Prep	537 (mod)			1.00 g	4 mL	628784	04/10/25 08:04	D5VP	ELLE
Total/NA	Cleanup	Extract Aliquot			2.00 mL	1 mL	628938	04/10/25 12:49	D5VP	ELLE
Total/NA	Analysis	537 IDA		1	1 uL	1 uL	630737	04/15/25 10:54	FDE4	ELLE
	Instrument ID: 30731									

Client Sample ID: IDW-AQ-0425
Date Collected: 04/03/25 12:30
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			224.3 mL	5 mL	629772	04/13/25 09:00	L2FU	ELLE
Total/NA	Analysis	8082A		1	1 uL	1 uL	630117	04/14/25 11:21	M6UH	ELLE
	Instrument ID: 17342									
Total/NA	Prep	SPE			263.9 mL	1.00 mL	628488	04/09/25 15:59	Y4GV	ELLE
Total/NA	Analysis	537 IDA		1			629088	04/10/25 18:14	DSU6	ELLE
	Instrument ID: 30638									

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Analyst References:

Lab: ELLE

Batch Type: Cleanup

D5VP = Sarah Hammen

Batch Type: Prep

D5VP = Sarah Hammen
L2FU = Meghan McArdle
UBKG = Brian Graham
Y4GV = Zoe Eckman

Batch Type: Analysis

DSU6 = John Grossi
FDE4 = Shih-Hung Yang
M6UH = Abigail Northeimer
UVJN = Vincent Norton

Client Sample ID: IDW-SOIL-0425

Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1

Matrix: Solid
Percent Solids: 81.4

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1221	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1232	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1242	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1248	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1254	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1260	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*84*		*66 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*66 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
Tetrachloro-m-xylene	*76*		*68 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
Tetrachloro-m-xylene	*79*		*68 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluoropropanesulfonic acid (PFPrS)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluoropropionic acid (PFPrA)	ND		6.14		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluorobutanesulfonamide (FBSA)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluorohexanesulfonamide (FHxSA)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*112*		*31 - 166*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C4-PFBA	*114*		*25 - 147*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C3-PFHxS	*113*		*26 - 155*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C3-PFPrA	*136*		*10 - 158*	*04/10/25 08:04*	*04/15/25 10:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**18.6**	**!**	1.0		%			04/09/25 07:05	1

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Client Sample ID: IDW-AQ-0425

Date Collected: 04/03/25 12:30
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-2

Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1221	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1232	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1242	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1248	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1254	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1260	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*10 - 148*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*10 - 148*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
Tetrachloro-m-xylene	*76*		*33 - 137*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
Tetrachloro-m-xylene	*74*		*33 - 137*	*04/13/25 09:00*	*04/14/25 11:21*	*1*

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluoropropanesulfonic acid (PFPrS)	**2.93**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluoropropionic acid (PFPrA)	ND		18.9		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluorobutanesulfonamide (FBSA)	**11.7**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluorohexanesulfonamide (FHxSA)	**57.1**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*87*		*27 - 200*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C4-PFBA	*68*		*10 - 168*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C3-PFHxS	*85*		*39 - 164*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C3-PFPrA	*32*		*10 - 155*	*04/09/25 15:59*	*04/10/25 18:14*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 410-629772/1-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1221	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1232	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1242	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1248	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1254	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1260	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*72*		*10 - 148*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 148*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
Tetrachloro-m-xylene	*75*		*33 - 137*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
Tetrachloro-m-xylene	*71*		*33 - 137*	*04/13/25 09:00*	*04/14/25 09:46*	*1*

Lab Sample ID: LCS 410-629772/2-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629772

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016			5.00	4.437		ug/L		89	60 - 117		
PCB-1260			5.00	4.501		ug/L		90	57 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*96*		*10 - 148*
DCB Decachlorobiphenyl (Surr)	*80*		*10 - 148*
Tetrachloro-m-xylene	*82*		*33 - 137*
Tetrachloro-m-xylene	*76*		*33 - 137*

Lab Sample ID: LCSD 410-629772/3-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 629772

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016			5.00	4.381		ug/L		88	60 - 117	1	30
PCB-1260			5.00	4.467		ug/L		89	57 - 134	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*97*		*10 - 148*
DCB Decachlorobiphenyl (Surr)	*81*		*10 - 148*
Tetrachloro-m-xylene	*83*		*33 - 137*
Tetrachloro-m-xylene	*75*		*33 - 137*

Lab Sample ID: MB 410-631794/1-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 410-631794/1-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1232	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1242	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1248	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1254	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1260	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*99*		*66 - 130*	*04/17/25 02:16*	*04/17/25 09:50*	*1*
Tetrachloro-m-xylene	*94*		*68 - 130*	*04/17/25 02:16*	*04/17/25 09:50*	*1*

Lab Sample ID: LCS 410-631794/2-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	167	169.4		ug/Kg		102	68 - 121
PCB-1260	167	166.6		ug/Kg		100	75 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*106*		*66 - 130*
Tetrachloro-m-xylene	*100*		*68 - 130*

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-628488/1-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluoropropanesulfonic acid (PFPrS)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluoropropionic acid (PFPrA)	ND		20.0		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluorobutanesulfonamide (FBSA)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluorohexanesulfonamide (FHxSA)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*75*		*27 - 200*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C4-PFBA	*75*		*10 - 168*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C3-PFHxS	*74*		*39 - 164*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C3-PFPrA	*74*		*10 - 155*	*04/09/25 15:59*	*04/10/25 17:34*	*1*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-628488/2-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	23.7	25.78		ng/L		109	46 - 135
Perfluoropropanesulfonic acid (PFPrS)	23.4	24.40		ng/L		104	29 - 167
Perfluoropropionic acid (PFPrA)	25.6	27.32		ng/L		107	31 - 176
Perfluorobutanesulfonamide (FBSA)	25.6	23.00		ng/L		90	48 - 130
Perfluorohexanesulfonamide (FHxSA)	25.6	25.69		ng/L		100	47 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3-PFBS	*86*		*27 - 200*
13C4-PFBA	*86*		*10 - 168*
13C3-PFHxS	*87*		*39 - 164*
13C3-PFPrA	*95*		*10 - 155*

Lab Sample ID: LCSD 410-628488/3-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 628488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	23.7	26.01		ng/L		110	46 - 135	1	30
Perfluoropropanesulfonic acid (PFPrS)	23.4	26.63		ng/L		114	29 - 167	9	30
Perfluoropropionic acid (PFPrA)	25.6	28.30		ng/L		111	31 - 176	4	30
Perfluorobutanesulfonamide (FBSA)	25.6	25.47		ng/L		100	48 - 130	10	30
Perfluorohexanesulfonamide (FHxSA)	25.6	27.23		ng/L		106	47 - 130	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3-PFBS	*79*		*27 - 200*
13C4-PFBA	*77*		*10 - 168*
13C3-PFHxS	*82*		*39 - 164*
13C3-PFPrA	*79*		*10 - 155*

Lab Sample ID: MB 410-628784/1-B
Matrix: Solid
Analysis Batch: 630737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluoropropanesulfonic acid (PFPrS)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluoropropionic acid (PFPrA)	ND		5.00		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluorobutanesulfonamide (FBSA)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluorohexanesulfonamide (FHxSA)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	113		31 - 166	04/10/25 08:04	04/15/25 10:26	1
13C4-PFBA	116		25 - 147	04/10/25 08:04	04/15/25 10:26	1
13C3-PFHxS	112		26 - 155	04/10/25 08:04	04/15/25 10:26	1
13C3-PFPrA	139		10 - 158	04/10/25 08:04	04/15/25 10:26	1

Lab Sample ID: LCS 410-628784/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)			23.1	15.71		ng/g		68	42 - 144		
Perfluoropropanesulfonic acid (PFPrS)			22.9	15.82		ng/g		69	20 - 160		
Perfluoropropionic acid (PFPrA)			25.0	15.35		ng/g		61	55 - 136		
Perfluorobutanesulfonamide (FBSA)			25.0	18.89		ng/g		76	31 - 130		
Perfluorohexanesulfonamide (FHxSA)			25.0	16.75		ng/g		67	35 - 136		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3-PFBS	108		31 - 166
13C4-PFBA	112		25 - 147
13C3-PFHxS	118		26 - 155
13C3-PFPrA	131		10 - 158

Lab Sample ID: 180-188862-1 MS — **Client Sample ID: IDW-SOIL-0425**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		27.3	19.32		ng/g	☼	71	42 - 144		
Perfluoropropanesulfonic acid (PFPrS)	ND		27.1	18.14		ng/g	☼	67	20 - 160		
Perfluoropropionic acid (PFPrA)	ND		29.5	17.88		ng/g	☼	61	55 - 136		
Perfluorobutanesulfonamide (FBSA)	ND		29.5	20.29		ng/g	☼	69	31 - 130		
Perfluorohexanesulfonamide (FHxSA)	ND		29.5	20.91		ng/g	☼	71	35 - 136		

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3-PFBS	121		31 - 166
13C4-PFBA	130		25 - 147
13C3-PFHxS	133		26 - 155
13C3-PFPrA	150		10 - 158

Lab Sample ID: 180-188862-1 MSD — **Client Sample ID: IDW-SOIL-0425**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		28.4	20.83		ng/g	☼	73	42 - 144	8	30

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 180-188862-1 MSD
Matrix: Solid
Analysis Batch: 630737

Client Sample ID: IDW-SOIL-0425
Prep Type: Total/NA
Prep Batch: 628784

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropropanesulfonic acid (PFPrS)	ND		28.1	19.62		ng/g	☼	70	20 - 160	8	30
Perfluoropropionic acid (PFPrA)	ND		30.7	18.99		ng/g	☼	62	55 - 136	6	30
Perfluorobutanesulfonamide (FBSA)	ND		30.7	23.16		ng/g	☼	75	31 - 130	13	30
Perfluorohexanesulfonamide (FHxSA)	ND		30.7	22.39		ng/g	☼	73	35 - 136	7	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3-PFBS	*125*		*31 - 166*
13C4-PFBA	*133*		*25 - 147*
13C3-PFHxS	*135*		*26 - 155*
13C3-PFPrA	*152*		*10 - 158*

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

GC Semi VOA

Prep Batch: 629772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	3510C	
MB 410-629772/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-629772/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-629772/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 630117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	8082A	629772
MB 410-629772/1-A	Method Blank	Total/NA	Water	8082A	629772
LCS 410-629772/2-A	Lab Control Sample	Total/NA	Water	8082A	629772
LCSD 410-629772/3-A	Lab Control Sample Dup	Total/NA	Water	8082A	629772

Prep Batch: 631794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	3546	
MB 410-631794/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-631794/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 631963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	8082A	631794
MB 410-631794/1-A	Method Blank	Total/NA	Solid	8082A	631794
LCS 410-631794/2-A	Lab Control Sample	Total/NA	Solid	8082A	631794

LCMS

Prep Batch: 628488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	SPE	
MB 410-628488/1-A	Method Blank	Total/NA	Water	SPE	
LCS 410-628488/2-A	Lab Control Sample	Total/NA	Water	SPE	
LCSD 410-628488/3-A	Lab Control Sample Dup	Total/NA	Water	SPE	

Prep Batch: 628784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	
MB 410-628784/1-B	Method Blank	Total/NA	Solid	537 (mod)	
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	537 (mod)	
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	

Cleanup Batch: 628938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784
MB 410-628784/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	628784
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	628784
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

LCMS

Analysis Batch: 629088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	537 IDA	628488
MB 410-628488/1-A	Method Blank	Total/NA	Water	537 IDA	628488
LCS 410-628488/2-A	Lab Control Sample	Total/NA	Water	537 IDA	628488
LCSD 410-628488/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	628488

Analysis Batch: 630737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938
MB 410-628784/1-B	Method Blank	Total/NA	Solid	537 IDA	628938
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	537 IDA	628938
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938

General Chemistry

Analysis Batch: 628143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	Moisture	

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Brad Mikula	Lab PM: Johnson, Andy	Carrier Tracking No(s):	COC No: 180-112032-19708.1
Client Contact: Brad Mikula / Chris Kupfer	Phone: 814-241-5054	E-Mail: Andy.Johnson@et.eurofinsus.com	State of Origin: PA	Page: Page 1 of 1
Company: Michael Baker International, Inc.	PWSID:	Analysis Requested		Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard			Preservation Codes: N - None
City: Moon Township	TAT Requested (days):			
State, Zip: PA, 15108	Compliance Project: Δ Yes Δ No			
Phone: 412-269-6012(Tel) 412-375-3996(Fax)	PO #: Purchase Order Requested			
Email: bmikula@mbakerintl.com	WO #:			Other:
Project Name: DEP Saegertown PFAS	Project #: 18029855			
Site: Saegertown PFAS Site	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8082A, Moisture	PFC_IDA - PFAS by 537 IDA	8082A - PCBs by 8082A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
IDW-SOIL-0425	4/3/25	1230	C	Solid	N	N	X	X		2	
IDW-AQ-0425	4/3/25	1240	C	Water	N	N		X	X	4	

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
B. Mikula	4/3/25 1800	MBI			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/7/25 12:20	Company ECET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 12: 10.8 C: 10.8

HH

Login Sample Receipt Checklist

Client: Michael Baker International, Inc.

Job Number: 180-188862-1

Login Number: 188862
List Number: 1
Creator: Johnson, Andy

List Source: Eurofins Pittsburgh

Question	Answer	Comment
The cooler's custody seal is intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).		
Cooler Temperature is recorded.		
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).		
WV: Container Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
There are no discrepancies between the containers received and the COC.		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
There is sufficient vol. for all requested analyses.		
Is the Field Sampler's name present on COC?		
Sample custody seals are intact.		
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?		

Login Sample Receipt Checklist

Client: Michael Baker International, Inc. Job Number: 180-188862-1

Login Number: 188862 **List Source: Eurofins Lancaster Laboratories Environment Testing, LLC**
List Number: 2 **List Creation: 04/08/25 08:33 PM**
Creator: Metzger, Katherine A

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	True	
WV: Container Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	Not present.
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 23, 2024

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24L0638

Enclosed are results of analyses for samples as received by the laboratory on December 7, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 12/23/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24L0638

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GM-14S	24L0638-01	Ground Water		EPA 1633	
GM-14D	24L0638-02	Ground Water		EPA 1633	

Pace Analytical Services, LLC - East Longmeadow, Ma

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA 1633

Qualifications:

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

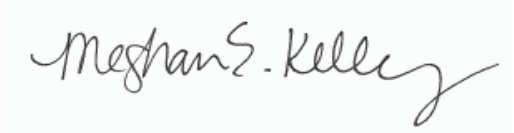
D7-NMeFOSE
B394241-BLK1, S115846-CCB2

D9-NEtFOSE
B394241-BLK1, S115846-CCB2

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
B394241-BLK1, S115846-CCB2

N-methylperfluorooctanesulfonamidoethanol(NMeF
B394241-BLK1, S115846-CCB2

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0638

Date Received: 12/7/2024

Field Sample #: GM-14S | Sampled: 12/5/2024 15:30

Sample ID: 24L0638-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorobutanesulfonic acid (PFBS)	3.7	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorohexanesulfonic acid (PFHxS)	3.3	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorooctanesulfonic acid (PFOS)	6.3	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0638

Date Received: 12/7/2024

Field Sample #: GM-14S | Sampled: 12/5/2024 15:30

Sample ID: 24L0638-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	12/17/24	12/20/24 21:24	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	93.1	5-130		12/20/24 21:24
13C5-PFPeA	89.6	40-130		12/20/24 21:24
13C5-PFHxA	93.9	40-130		12/20/24 21:24
13C4-PFHpA	92.0	40-130		12/20/24 21:24
13C8-PFOA	90.4	40-130		12/20/24 21:24
13C9-PFNA	88.7	40-130		12/20/24 21:24
13C6-PFDA	91.8	40-130		12/20/24 21:24
13C7-PFUnA	88.4	30-130		12/20/24 21:24
13C2-PFDoA	75.5	10-130		12/20/24 21:24
13C2-PFTeDA	69.4	10-130		12/20/24 21:24
13C3-PFBS	96.9	40-135		12/20/24 21:24
13C3-PFHxS	94.2	40-130		12/20/24 21:24
13C8-PFOS	91.5	40-130		12/20/24 21:24
13C2-4:2FTS	158	40-200		12/20/24 21:24
13C2-6:2FTS	126	40-200		12/20/24 21:24
13C2-8:2FTS	89.2	40-300		12/20/24 21:24
13C8-PFOSA	87.2	40-130		12/20/24 21:24
D3-NMeFOSA	71.6	10-130		12/20/24 21:24
D5-NEtFOSA	71.7	10-130		12/20/24 21:24
D3-NMeFOSAA	87.4	40-170		12/20/24 21:24
D5-NEtFOSAA	86.7	25-135		12/20/24 21:24
D7-NMeFOSE	75.3	10-130		12/20/24 21:24
D9-NEtFOSE	73.5	10-130		12/20/24 21:24
13C3-HFPO-DA	91.8	40-130		12/20/24 21:24

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0638

Date Received: 12/7/2024

Field Sample #: GM-14D | Sampled: 12/5/2024 16:05

Sample ID: 24L0638-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorooctanesulfonic acid (PFOS)	1.6	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 24L0638

Date Received: 12/7/2024

Field Sample #: GM-14D | Sampled: 12/5/2024 16:05

Sample ID: 24L0638-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	12/17/24	12/20/24 21:34	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	57.5	5-130		12/20/24 21:34
13C5-PFPeA	91.2	40-130		12/20/24 21:34
13C5-PFHxA	93.7	40-130		12/20/24 21:34
13C4-PFHpA	94.1	40-130		12/20/24 21:34
13C8-PFOA	93.3	40-130		12/20/24 21:34
13C9-PFNA	91.4	40-130		12/20/24 21:34
13C6-PFDA	91.6	40-130		12/20/24 21:34
13C7-PFUnA	83.6	30-130		12/20/24 21:34
13C2-PFDoA	77.1	10-130		12/20/24 21:34
13C2-PFTeDA	68.1	10-130		12/20/24 21:34
13C3-PFBS	93.0	40-135		12/20/24 21:34
13C3-PFHxS	93.9	40-130		12/20/24 21:34
13C8-PFOS	91.8	40-130		12/20/24 21:34
13C2-4:2FTS	121	40-200		12/20/24 21:34
13C2-6:2FTS	105	40-200		12/20/24 21:34
13C2-8:2FTS	85.7	40-300		12/20/24 21:34
13C8-PFOSA	93.7	40-130		12/20/24 21:34
D3-NMeFOSA	74.1	10-130		12/20/24 21:34
D5-NEtFOSA	68.4	10-130		12/20/24 21:34
D3-NMeFOSAA	81.7	40-170		12/20/24 21:34
D5-NEtFOSAA	81.8	25-135		12/20/24 21:34
D7-NMeFOSE	81.7	10-130		12/20/24 21:34
D9-NEtFOSE	79.3	10-130		12/20/24 21:34
13C3-HFPO-DA	99.0	40-130		12/20/24 21:34

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24L0638-01 [GM-14S]	B394241	499	4.00	12/17/24
24L0638-02 [GM-14D]	B394241	538	4.00	12/17/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
Blank (B394241-BLK1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							PF-17
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							PF-17
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*84.0*		ng/L	79.12		106	5-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633											
Blank (B394241-BLK1)				Prepared: 12/17/24 Analyzed: 12/20/24							
Surrogate: 13C5-PFPeA	*40.8*		ng/L	39.56		103		40-130			
Surrogate: 13C5-PFHxA	*21.2*		ng/L	19.78		107		40-130			
Surrogate: 13C4-PFHpA	*21.4*		ng/L	19.78		108		40-130			
Surrogate: 13C8-PFOA	*21.0*		ng/L	19.78		106		40-130			
Surrogate: 13C9-PFNA	*10.5*		ng/L	9.890		106		40-130			
Surrogate: 13C6-PFDA	*9.85*		ng/L	9.890		99.6		40-130			
Surrogate: 13C7-PFUnA	*10.4*		ng/L	9.890		106		30-130			
Surrogate: 13C2-PFDoA	*10.2*		ng/L	9.890		103		10-130			
Surrogate: 13C2-PFTeDA	*11.0*		ng/L	9.890		111		10-130			
Surrogate: 13C3-PFBS	*22.1*		ng/L	19.78		112		40-135			
Surrogate: 13C3-PFHxS	*21.5*		ng/L	19.78		109		40-130			
Surrogate: 13C8-PFOS	*20.9*		ng/L	19.78		106		40-130			
Surrogate: 13C2-4:2FTS	*59.7*		ng/L	39.56		151		40-200			
Surrogate: 13C2-6:2FTS	*52.6*		ng/L	39.56		133		40-200			
Surrogate: 13C2-8:2FTS	*53.6*		ng/L	39.56		135		40-300			
Surrogate: 13C8-PFOSA	*22.4*		ng/L	19.78		113		40-130			
Surrogate: D3-NMeFOSA	*19.9*		ng/L	19.78		101		10-130			
Surrogate: D5-NEtFOSA	*18.7*		ng/L	19.78		94.5		10-130			
Surrogate: D3-NMeFOSAA	*47.4*		ng/L	39.56		120		40-170			
Surrogate: D5-NEtFOSAA	*47.8*		ng/L	39.56		121		25-135			
Surrogate: D7-NMeFOSE	*322*		ng/L	197.8		**163**	*	10-130			PF-17
Surrogate: D9-NEtFOSE	*308*		ng/L	197.8		**156**	*	10-130			PF-17
Surrogate: 13C3-HFPO-DA	*86.9*		ng/L	79.12		110		40-130			
LCS (B394241-BS1)				Prepared: 12/17/24 Analyzed: 12/20/24							
Perfluorobutanoic acid (PFBA)	66.1	6.3	ng/L	79.19		83.5		70-140			
Perfluoropentanoic acid (PFPeA)	34.1	3.2	ng/L	39.59		86.0		65-135			
Perfluorohexanoic acid (PFHxA)	17.5	1.6	ng/L	19.80		88.3		70-145			
Perfluoroheptanoic acid (PFHpA)	16.3	1.6	ng/L	19.80		82.5		70-150			
Perfluorooctanoic acid (PFOA)	16.6	1.6	ng/L	19.80		83.8		70-150			
Perfluorononanoic acid (PFNA)	16.7	1.6	ng/L	19.80		84.3		70-150			
Perfluorodecanoic acid (PFDA)	16.5	1.6	ng/L	19.80		83.3		70-140			
Perfluoroundecanoic acid (PFUnA)	17.1	1.6	ng/L	19.80		86.5		70-145			
Perfluorododecanoic acid (PFDoA)	17.3	1.6	ng/L	19.80		87.4		70-140			
Perfluorotridecanoic acid (PFTrDA)	17.2	1.6	ng/L	19.80		86.9		65-140			
Perfluorotetradecanoic acid (PFTeDA)	17.3	1.6	ng/L	19.80		87.4		60-140			
Perfluorobutanesulfonic acid (PFBS)	15.2	1.6	ng/L	19.80		76.6		60-145			
Perfluoropentanesulfonic acid (PFPeS)	16.2	1.6	ng/L	19.80		81.8		65-140			
Perfluorohexanesulfonic acid (PFHxS)	14.9	1.6	ng/L	19.80		75.0		65-145			
Perfluoroheptanesulfonic acid (PFHpS)	17.9	1.6	ng/L	19.80		90.4		70-150			
Perfluorooctanesulfonic acid (PFOS)	16.1	1.6	ng/L	19.80		81.2		55-150			
Perfluorononanesulfonic acid (PFNS)	18.0	1.6	ng/L	19.80		90.9		65-145			
Perfluorodecanesulfonic acid (PFDS)	17.6	1.6	ng/L	19.80		88.9		60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.3	1.6	ng/L	19.80		82.5		50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	67.6	6.3	ng/L	79.19		85.3		70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	67.2	6.3	ng/L	79.19		84.8		65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	69.9	6.3	ng/L	79.19		88.2		60-150			
Perfluorooctanesulfonamide (PFOSA)	17.9	1.6	ng/L	19.80		90.2		70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	17.2	1.6	ng/L	19.80		86.6		60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
LCS (B394241-BS1)				Prepared: 12/17/24 Analyzed: 12/20/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	16.9	1.6	ng/L	19.80		85.2	65-145			
N-MeFOSAA (NMeFOSAA)	16.2	1.6	ng/L	19.80		82.1	50-140			
N-EtFOSAA (NEtFOSAA)	17.1	1.6	ng/L	19.80		86.5	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	174	16	ng/L	198.0		88.1	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	175	16	ng/L	198.0		88.5	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	71.6	6.3	ng/L	79.19		90.5	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	62.6	6.3	ng/L	79.19		79.0	65-145			
9Cl-PF3ONS (F53B Minor)	68.3	6.3	ng/L	79.19		86.3	70-155			
11Cl-PF3OUdS (F53B Major)	67.6	6.3	ng/L	79.19		85.4	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	78.6	7.9	ng/L	98.99		79.4	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	414	40	ng/L	494.9		83.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	423	40	ng/L	494.9		85.5	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	29.3	3.2	ng/L	39.59		73.9	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	33.2	3.2	ng/L	39.59		83.8	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	35.0	3.2	ng/L	39.59		88.4	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	36.3	3.2	ng/L	39.59		91.8	50-150			
Surrogate: 13C4-PFBA	*81.3*		ng/L	79.19		103	5-130			
Surrogate: 13C5-PFPeA	*39.1*		ng/L	39.59		98.8	40-130			
Surrogate: 13C5-PFHxA	*19.6*		ng/L	19.80		98.9	40-130			
Surrogate: 13C4-PFHpA	*19.7*		ng/L	19.80		99.7	40-130			
Surrogate: 13C8-PFOA	*20.5*		ng/L	19.80		103	40-130			
Surrogate: 13C9-PFNA	*10.1*		ng/L	9.899		102	40-130			
Surrogate: 13C6-PFDA	*10.7*		ng/L	9.899		108	40-130			
Surrogate: 13C7-PFUnA	*9.95*		ng/L	9.899		101	30-130			
Surrogate: 13C2-PFDoA	*9.11*		ng/L	9.899		92.1	10-130			
Surrogate: 13C2-PFTeDA	*9.05*		ng/L	9.899		91.4	10-130			
Surrogate: 13C3-PFBS	*21.2*		ng/L	19.80		107	40-135			
Surrogate: 13C3-PFHxS	*20.4*		ng/L	19.80		103	40-130			
Surrogate: 13C8-PFOS	*19.8*		ng/L	19.80		100	40-130			
Surrogate: 13C2-4:2FTS	*45.6*		ng/L	39.59		115	40-200			
Surrogate: 13C2-6:2FTS	*45.6*		ng/L	39.59		115	40-200			
Surrogate: 13C2-8:2FTS	*37.1*		ng/L	39.59		93.7	40-300			
Surrogate: 13C8-PFOSA	*19.8*		ng/L	19.80		100	40-130			
Surrogate: D3-NMeFOSA	*16.7*		ng/L	19.80		84.3	10-130			
Surrogate: D5-NEtFOSA	*16.6*		ng/L	19.80		84.0	10-130			
Surrogate: D3-NMeFOSAA	*41.5*		ng/L	39.59		105	40-170			
Surrogate: D5-NEtFOSAA	*39.7*		ng/L	39.59		100	25-135			
Surrogate: D7-NMeFOSE	*206*		ng/L	198.0		104	10-130			
Surrogate: D9-NEtFOSE	*206*		ng/L	198.0		104	10-130			
Surrogate: 13C3-HFPO-DA	*79.9*		ng/L	79.19		101	40-130			
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorobutanoic acid (PFBA)	10.5	6.3	ng/L	12.67		82.6	70-140			
Perfluoropentanoic acid (PFPeA)	5.15	3.2	ng/L	6.333		81.2	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Perfluorohexanoic acid (PFHxA)	2.66	1.6	ng/L	3.167		83.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.49	1.6	ng/L	3.167		78.5	70-150			
Perfluorooctanoic acid (PFOA)	2.63	1.6	ng/L	3.167		83.0	70-150			
Perfluorononanoic acid (PFNA)	2.45	1.6	ng/L	3.167		77.3	70-150			
Perfluorodecanoic acid (PFDA)	2.61	1.6	ng/L	3.167		82.3	70-140			
Perfluoroundecanoic acid (PFUnA)	2.58	1.6	ng/L	3.167		81.6	70-145			
Perfluorododecanoic acid (PFDoA)	2.53	1.6	ng/L	3.167		79.9	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.63	1.6	ng/L	3.167		83.0	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.63	1.6	ng/L	3.167		83.0	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.36	1.6	ng/L	2.812		83.8	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.37	1.6	ng/L	2.977		79.6	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.29	1.6	ng/L	2.888		79.2	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.70	1.6	ng/L	3.015		89.4	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.27	1.6	ng/L	2.939		77.4	55-150			
Perfluorononanesulfonic acid (PFNS)	2.46	1.6	ng/L	3.040		80.9	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.38	1.6	ng/L	3.053		78.0	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.13	1.6	ng/L	3.065		69.6	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.1	6.3	ng/L	11.87		85.0	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.99	6.3	ng/L	12.05		82.9	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.0	6.3	ng/L	12.16		90.5	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.74	1.6	ng/L	3.167		86.6	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.60	1.6	ng/L	3.167		82.2	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.95	1.6	ng/L	3.167		93.1	65-145			
N-MeFOSAA (NMeFOSAA)	2.45	1.6	ng/L	3.167		77.5	50-140			
N-EtFOSAA (NEtFOSAA)	2.35	1.6	ng/L	3.167		74.1	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	28.0	16	ng/L	31.67		88.5	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	26.8	16	ng/L	31.67		84.6	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.5	6.3	ng/L	12.67		83.3	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.0	6.3	ng/L	11.97		83.7	65-145			
9Cl-PF3ONS (F53B Minor)	10.5	6.3	ng/L	11.82		89.2	70-155			
11Cl-PF3OUdS (F53B Major)	10.1	6.3	ng/L	11.83		85.5	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	12.0	7.9	ng/L	15.83		75.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	64.6	40	ng/L	79.16		81.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	63.9	40	ng/L	79.16		80.7	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.58	3.2	ng/L	5.649		81.1	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.13	3.2	ng/L	6.333		81.0	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.28	3.2	ng/L	6.333		83.3	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.99	3.2	ng/L	6.333		94.6	50-150			
Surrogate: 13C4-PFBA	*83.7*		ng/L	79.16		106	5-130			
Surrogate: 13C5-PFPeA	*41.2*		ng/L	39.58		104	40-130			
Surrogate: 13C5-PFHxA	*20.7*		ng/L	19.79		104	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B394241 - EPA 1633										
MRL Check (B394241-MRL1)				Prepared: 12/17/24 Analyzed: 12/20/24						
Surrogate: 13C4-PFHpA	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C8-PFOA	*20.9*		ng/L	19.79		106	40-130			
Surrogate: 13C9-PFNA	*10.7*		ng/L	9.896		108	40-130			
Surrogate: 13C6-PFDA	*10.1*		ng/L	9.896		102	40-130			
Surrogate: 13C7-PFUnA	*10.1*		ng/L	9.896		102	30-130			
Surrogate: 13C2-PFDoA	*9.60*		ng/L	9.896		97.0	10-130			
Surrogate: 13C2-PFTeDA	*9.03*		ng/L	9.896		91.3	10-130			
Surrogate: 13C3-PFBS	*20.4*		ng/L	19.79		103	40-135			
Surrogate: 13C3-PFHxS	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C8-PFOS	*20.6*		ng/L	19.79		104	40-130			
Surrogate: 13C2-4:2FTS	*47.2*		ng/L	39.58		119	40-200			
Surrogate: 13C2-6:2FTS	*44.7*		ng/L	39.58		113	40-200			
Surrogate: 13C2-8:2FTS	*37.1*		ng/L	39.58		93.8	40-300			
Surrogate: 13C8-PFOSA	*20.5*		ng/L	19.79		104	40-130			
Surrogate: D3-NMeFOSA	*18.0*		ng/L	19.79		90.8	10-130			
Surrogate: D5-NEtFOSA	*17.7*		ng/L	19.79		89.6	10-130			
Surrogate: D3-NMeFOSAA	*43.5*		ng/L	39.58		110	40-170			
Surrogate: D5-NEtFOSAA	*43.0*		ng/L	39.58		109	25-135			
Surrogate: D7-NMeFOSE	*215*		ng/L	197.9		109	10-130			
Surrogate: D9-NEtFOSE	*220*		ng/L	197.9		111	10-130			
Surrogate: 13C3-HFPO-DA	*86.8*		ng/L	79.16		110	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires

24L0638 RF

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

Phone: 413-525-2332

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Location: Saegertown PFAS
Project Number: 189432
Project Manager: Chris Kupfer
Contract/Quote Name/Number:
Invoice Recipient: MBI
Sampled By: B. Mikula / Justin Lacy

5-Day ☐ 10 Day ☐ (Std) ☒
Rush Date:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐
Format: PDF ☐ EXCEL ☐
Other:
EDD Like Data Pkg Required: ☐
Email To:
Fax To #:

Field Filtered
Lab to Filter
Field Filtered
Lab to Filter
PCP ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Work Order #	Sample ID	Collection Date/Time	Grab/Comp	Matrix Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633	TSS 1633
1	GM-14S	12/5/24 1530	G	GW			3			X	X
2	GM-14D	" 1605	G	GW			3			X	X

[2] Preservation Code

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCl
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature) — Date/Time: 12/6/24 2:30
Received by: (signature) — Date/Time: 12/7/24 11:19

Client Comments:

Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Lab Comments:

MA MCP Required ☐
MCP Certification Form Required ☐
CT RCP Required ☐
RCP Certification Form Required ☐
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government	☒	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ AHA-LAP,LLC

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses should be performed. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Michael Baker

Project Saegertown PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location Saegertown PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☒ Walk In ☐ Other ☐

Received By / Date / Time EGR 12/7/24 1119

Back-Sheet By / Date / Time STM 12/10/24 1557

Temperature Method Gun #6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp ☒ < 6° C Actual Temperature 2.8

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒	Analysis ☒	Sampler Name ☒
Project ☒	IDs ☒	Collection Date/Time ☒

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note. West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL		1	2																		
Sulfuric																						
Unpreserved	250mL																					
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				
125mL Plastic				—	—																	

OBG Part of Ramboll | Michael Baker INTERNATIONAL

OBG|Baker Environmental Solutions Joint Venture

ATTACHMENT F

Laboratory Analytical Reports
March/April 2025 Groundwater Sampling Event

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 17, 2025

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 109432
Laboratory Work Order Number: 25D0150

Enclosed are results of analyses for samples as received by the laboratory on April 3, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 4/17/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 109432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25D0150

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GM-13D	25D0150-01	Ground Water		EPA 1633	
W7D	25D0150-02	Ground Water		EPA 1633	
GM-24D	25D0150-03	Ground Water		EPA 1633	
GM-24S	25D0150-04	Ground Water		EPA 1633	
GM-23D	25D0150-05	Ground Water		EPA 1633	
GM-15S	25D0150-06	Ground Water		EPA 1633	
GM-23S	25D0150-07	Ground Water		EPA 1633	
GM-15D	25D0150-08	Ground Water		EPA 1633	
OB-6-100	25D0150-09	Ground Water		EPA 1633	
BMW-5	25D0150-10	Ground Water		EPA 1633	
OB-6-50	25D0150-11	Ground Water		EPA 1633	
SBW	25D0150-12	Ground Water		EPA 1633	
OB-7-50	25D0150-13	Ground Water		EPA 1633	
OB-7-100	25D0150-14	Ground Water		EPA 1633	
SBMW-1	25D0150-15	Ground Water		EPA 1633	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA 1633

Qualifications:

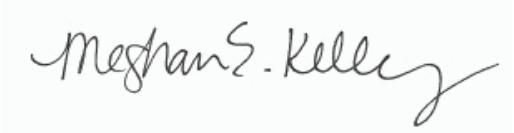
PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
25D0150-10[BMW-5], 25D0150-12[SBW]

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-13D | Sampled: 4/1/2025 13:10

Sample ID: 25D0150-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorohexanoic acid (PFHxA)	1.6	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorooctanoic acid (PFOA)	2.3	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-13D | Sampled: 4/1/2025 13:10

Sample ID: 25D0150-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:07	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	102	5-130		4/11/25 18:07
13C5-PFPeA	103	40-130		4/11/25 18:07
13C5-PFHxA	103	40-130		4/11/25 18:07
13C4-PFHpA	100	40-130		4/11/25 18:07
13C8-PFOA	104	40-130		4/11/25 18:07
13C9-PFNA	101	40-130		4/11/25 18:07
13C6-PFDA	100	40-130		4/11/25 18:07
13C7-PFUnA	112	30-130		4/11/25 18:07
13C2-PFDoA	93.7	10-130		4/11/25 18:07
13C2-PFTeDA	89.0	10-130		4/11/25 18:07
13C3-PFBS	92.2	40-135		4/11/25 18:07
13C3-PFHxS	102	40-130		4/11/25 18:07
13C8-PFOS	102	40-130		4/11/25 18:07
13C2-4:2FTS	83.4	40-200		4/11/25 18:07
13C2-6:2FTS	90.6	40-200		4/11/25 18:07
13C2-8:2FTS	99.3	40-300		4/11/25 18:07
13C8-PFOSA	96.5	40-130		4/11/25 18:07
D3-NMeFOSA	80.3	10-130		4/11/25 18:07
D5-NEtFOSA	80.7	10-130		4/11/25 18:07
D3-NMeFOSAA	79.1	40-170		4/11/25 18:07
D5-NEtFOSAA	74.5	25-135		4/11/25 18:07
D7-NMeFOSE	86.1	10-130		4/11/25 18:07
D9-NEtFOSE	83.7	10-130		4/11/25 18:07
13C3-HFPO-DA	104	40-130		4/11/25 18:07

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: W7D | Sampled: 4/1/2025 14:50

Sample ID: 25D0150-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: W7D | Sampled: 4/1/2025 14:50

Sample ID: 25D0150-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 18:16	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	98.2	5-130		4/11/25 18:16
13C5-PFPeA	102	40-130		4/11/25 18:16
13C5-PFHxA	101	40-130		4/11/25 18:16
13C4-PFHpA	95.9	40-130		4/11/25 18:16
13C8-PFOA	99.7	40-130		4/11/25 18:16
13C9-PFNA	99.3	40-130		4/11/25 18:16
13C6-PFDA	102	40-130		4/11/25 18:16
13C7-PFUnA	106	30-130		4/11/25 18:16
13C2-PFDoA	93.9	10-130		4/11/25 18:16
13C2-PFTeDA	89.8	10-130		4/11/25 18:16
13C3-PFBS	96.6	40-135		4/11/25 18:16
13C3-PFHxS	102	40-130		4/11/25 18:16
13C8-PFOS	97.1	40-130		4/11/25 18:16
13C2-4:2FTS	103	40-200		4/11/25 18:16
13C2-6:2FTS	108	40-200		4/11/25 18:16
13C2-8:2FTS	99.9	40-300		4/11/25 18:16
13C8-PFOSA	92.7	40-130		4/11/25 18:16
D3-NMeFOSA	79.4	10-130		4/11/25 18:16
D5-NEtFOSA	78.0	10-130		4/11/25 18:16
D3-NMeFOSAA	90.7	40-170		4/11/25 18:16
D5-NEtFOSAA	87.0	25-135		4/11/25 18:16
D7-NMeFOSE	83.3	10-130		4/11/25 18:16
D9-NEtFOSE	80.8	10-130		4/11/25 18:16
13C3-HFPO-DA	96.4	40-130		4/11/25 18:16

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-24D | Sampled: 4/1/2025 15:25

Sample ID: 25D0150-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoropentanoic acid (PFPeA)	ND	2.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorohexanesulfonic acid (PFHxS)	3.9	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorooctanesulfonic acid (PFOS)	6.2	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
9Cl-PF3ONS (F53B Minor)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
11Cl-PF3OUdS (F53B Major)	ND	5.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-24D | Sampled: 4/1/2025 15:25

Sample ID: 25D0150-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:26	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	99.2	5-130		4/11/25 18:26
13C5-PFPeA	100	40-130		4/11/25 18:26
13C5-PFHxA	101	40-130		4/11/25 18:26
13C4-PFHpA	95.3	40-130		4/11/25 18:26
13C8-PFOA	94.8	40-130		4/11/25 18:26
13C9-PFNA	96.9	40-130		4/11/25 18:26
13C6-PFDA	98.7	40-130		4/11/25 18:26
13C7-PFUnA	107	30-130		4/11/25 18:26
13C2-PFDoA	88.7	10-130		4/11/25 18:26
13C2-PFTeDA	85.1	10-130		4/11/25 18:26
13C3-PFBS	93.5	40-135		4/11/25 18:26
13C3-PFHxS	99.3	40-130		4/11/25 18:26
13C8-PFOS	92.3	40-130		4/11/25 18:26
13C2-4:2FTS	96.3	40-200		4/11/25 18:26
13C2-6:2FTS	93.2	40-200		4/11/25 18:26
13C2-8:2FTS	87.8	40-300		4/11/25 18:26
13C8-PFOSA	86.6	40-130		4/11/25 18:26
D3-NMeFOSA	73.4	10-130		4/11/25 18:26
D5-NEtFOSA	74.9	10-130		4/11/25 18:26
D3-NMeFOSAA	89.7	40-170		4/11/25 18:26
D5-NEtFOSAA	87.4	25-135		4/11/25 18:26
D7-NMeFOSE	79.8	10-130		4/11/25 18:26
D9-NEtFOSE	77.0	10-130		4/11/25 18:26
13C3-HFPO-DA	98.9	40-130		4/11/25 18:26

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-24S | Sampled: 4/1/2025 16:20

Sample ID: 25D0150-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorohexanoic acid (PFHxA)	3.3	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorooctanoic acid (PFOA)	2.9	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorohexanesulfonic acid (PFHxS)	35	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorooctanesulfonic acid (PFOS)	36	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-24S | Sampled: 4/1/2025 16:20

Sample ID: 25D0150-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 18:36	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	102	5-130		4/11/25 18:36
13C5-PFPeA	99.3	40-130		4/11/25 18:36
13C5-PFHxA	101	40-130		4/11/25 18:36
13C4-PFHpA	95.8	40-130		4/11/25 18:36
13C8-PFOA	101	40-130		4/11/25 18:36
13C9-PFNA	100	40-130		4/11/25 18:36
13C6-PFDA	103	40-130		4/11/25 18:36
13C7-PFUnA	112	30-130		4/11/25 18:36
13C2-PFDoA	93.3	10-130		4/11/25 18:36
13C2-PFTeDA	92.9	10-130		4/11/25 18:36
13C3-PFBS	101	40-135		4/11/25 18:36
13C3-PFHxS	103	40-130		4/11/25 18:36
13C8-PFOS	96.0	40-130		4/11/25 18:36
13C2-4:2FTS	109	40-200		4/11/25 18:36
13C2-6:2FTS	91.6	40-200		4/11/25 18:36
13C2-8:2FTS	86.2	40-300		4/11/25 18:36
13C8-PFOSA	94.6	40-130		4/11/25 18:36
D3-NMeFOSA	77.8	10-130		4/11/25 18:36
D5-NEtFOSA	79.3	10-130		4/11/25 18:36
D3-NMeFOSAA	90.3	40-170		4/11/25 18:36
D5-NEtFOSAA	89.2	25-135		4/11/25 18:36
D7-NMeFOSE	82.4	10-130		4/11/25 18:36
D9-NEtFOSE	80.1	10-130		4/11/25 18:36
13C3-HFPO-DA	101	40-130		4/11/25 18:36

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-23D | Sampled: 4/1/2025 16:55

Sample ID: 25D0150-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-23D | Sampled: 4/1/2025 16:55

Sample ID: 25D0150-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:45	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.4	5-130		4/11/25 18:45
13C5-PFPeA	100	40-130		4/11/25 18:45
13C5-PFHxA	97.9	40-130		4/11/25 18:45
13C4-PFHpA	95.2	40-130		4/11/25 18:45
13C8-PFOA	104	40-130		4/11/25 18:45
13C9-PFNA	96.6	40-130		4/11/25 18:45
13C6-PFDA	95.6	40-130		4/11/25 18:45
13C7-PFUnA	105	30-130		4/11/25 18:45
13C2-PFDoA	87.1	10-130		4/11/25 18:45
13C2-PFTeDA	89.2	10-130		4/11/25 18:45
13C3-PFBS	89.3	40-135		4/11/25 18:45
13C3-PFHxS	99.2	40-130		4/11/25 18:45
13C8-PFOS	97.3	40-130		4/11/25 18:45
13C2-4:2FTS	99.6	40-200		4/11/25 18:45
13C2-6:2FTS	101	40-200		4/11/25 18:45
13C2-8:2FTS	97.5	40-300		4/11/25 18:45
13C8-PFOSA	90.7	40-130		4/11/25 18:45
D3-NMeFOSA	80.0	10-130		4/11/25 18:45
D5-NEtFOSA	79.7	10-130		4/11/25 18:45
D3-NMeFOSAA	88.1	40-170		4/11/25 18:45
D5-NEtFOSAA	84.6	25-135		4/11/25 18:45
D7-NMeFOSE	82.0	10-130		4/11/25 18:45
D9-NEtFOSE	80.8	10-130		4/11/25 18:45
13C3-HFPO-DA	96.9	40-130		4/11/25 18:45

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-15S | Sampled: 4/1/2025 17:20

Sample ID: 25D0150-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorooctanesulfonic acid (PFOS)	2.0	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-15S | Sampled: 4/1/2025 17:20

Sample ID: 25D0150-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 18:54	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	99.1	5-130		4/11/25 18:54
13C5-PFPeA	98.5	40-130		4/11/25 18:54
13C5-PFHxA	100	40-130		4/11/25 18:54
13C4-PFHpA	96.5	40-130		4/11/25 18:54
13C8-PFOA	96.6	40-130		4/11/25 18:54
13C9-PFNA	100	40-130		4/11/25 18:54
13C6-PFDA	99.5	40-130		4/11/25 18:54
13C7-PFUnA	108	30-130		4/11/25 18:54
13C2-PFDoA	91.4	10-130		4/11/25 18:54
13C2-PFTeDA	86.9	10-130		4/11/25 18:54
13C3-PFBS	98.9	40-135		4/11/25 18:54
13C3-PFHxS	103	40-130		4/11/25 18:54
13C8-PFOS	94.6	40-130		4/11/25 18:54
13C2-4:2FTS	123	40-200		4/11/25 18:54
13C2-6:2FTS	103	40-200		4/11/25 18:54
13C2-8:2FTS	92.2	40-300		4/11/25 18:54
13C8-PFOSA	91.1	40-130		4/11/25 18:54
D3-NMeFOSA	75.0	10-130		4/11/25 18:54
D5-NEtFOSA	75.8	10-130		4/11/25 18:54
D3-NMeFOSAA	92.6	40-170		4/11/25 18:54
D5-NEtFOSAA	89.7	25-135		4/11/25 18:54
D7-NMeFOSE	80.9	10-130		4/11/25 18:54
D9-NEtFOSE	79.1	10-130		4/11/25 18:54
13C3-HFPO-DA	97.2	40-130		4/11/25 18:54

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-23S | Sampled: 4/1/2025 18:00

Sample ID: 25D0150-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	19	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-23S | Sampled: 4/1/2025 18:00

Sample ID: 25D0150-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:03	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	91.7	5-130		4/11/25 19:03
13C5-PFPeA	92.9	40-130		4/11/25 19:03
13C5-PFHxA	95.5	40-130		4/11/25 19:03
13C4-PFHpA	96.3	40-130		4/11/25 19:03
13C8-PFOA	98.4	40-130		4/11/25 19:03
13C9-PFNA	92.2	40-130		4/11/25 19:03
13C6-PFDA	94.6	40-130		4/11/25 19:03
13C7-PFUnA	98.5	30-130		4/11/25 19:03
13C2-PFDoA	80.9	10-130		4/11/25 19:03
13C2-PFTeDA	70.6	10-130		4/11/25 19:03
13C3-PFBS	93.1	40-135		4/11/25 19:03
13C3-PFHxS	96.9	40-130		4/11/25 19:03
13C8-PFOS	88.4	40-130		4/11/25 19:03
13C2-4:2FTS	158	40-200		4/11/25 19:03
13C2-6:2FTS	113	40-200		4/11/25 19:03
13C2-8:2FTS	87.2	40-300		4/11/25 19:03
13C8-PFOSA	80.7	40-130		4/11/25 19:03
D3-NMeFOSA	64.0	10-130		4/11/25 19:03
D5-NEtFOSA	62.6	10-130		4/11/25 19:03
D3-NMeFOSAA	77.7	40-170		4/11/25 19:03
D5-NEtFOSAA	75.6	25-135		4/11/25 19:03
D7-NMeFOSE	63.3	10-130		4/11/25 19:03
D9-NEtFOSE	59.1	10-130		4/11/25 19:03
13C3-HFPO-DA	92.0	40-130		4/11/25 19:03

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-15D | Sampled: 4/1/2025 18:30

Sample ID: 25D0150-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: GM-15D | Sampled: 4/1/2025 18:30

Sample ID: 25D0150-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:12	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	98.5	5-130		4/11/25 19:12
13C5-PFPeA	101	40-130		4/11/25 19:12
13C5-PFHxA	101	40-130		4/11/25 19:12
13C4-PFHpA	97.8	40-130		4/11/25 19:12
13C8-PFOA	96.2	40-130		4/11/25 19:12
13C9-PFNA	96.4	40-130		4/11/25 19:12
13C6-PFDA	96.2	40-130		4/11/25 19:12
13C7-PFUnA	98.4	30-130		4/11/25 19:12
13C2-PFDoA	83.4	10-130		4/11/25 19:12
13C2-PFTeDA	82.9	10-130		4/11/25 19:12
13C3-PFBS	95.2	40-135		4/11/25 19:12
13C3-PFHxS	103	40-130		4/11/25 19:12
13C8-PFOS	94.0	40-130		4/11/25 19:12
13C2-4:2FTS	82.2	40-200		4/11/25 19:12
13C2-6:2FTS	91.9	40-200		4/11/25 19:12
13C2-8:2FTS	91.1	40-300		4/11/25 19:12
13C8-PFOSA	89.1	40-130		4/11/25 19:12
D3-NMeFOSA	69.7	10-130		4/11/25 19:12
D5-NEtFOSA	72.8	10-130		4/11/25 19:12
D3-NMeFOSAA	76.4	40-170		4/11/25 19:12
D5-NEtFOSAA	72.5	25-135		4/11/25 19:12
D7-NMeFOSE	77.5	10-130		4/11/25 19:12
D9-NEtFOSE	74.6	10-130		4/11/25 19:12
13C3-HFPO-DA	99.4	40-130		4/11/25 19:12

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-6-100 | Sampled: 4/1/2025 19:55

Sample ID: 25D0150-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-6-100 | Sampled: 4/1/2025 19:55

Sample ID: 25D0150-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 19:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	100	5-130		4/11/25 19:21
13C5-PFPeA	103	40-130		4/11/25 19:21
13C5-PFHxA	102	40-130		4/11/25 19:21
13C4-PFHpA	95.1	40-130		4/11/25 19:21
13C8-PFOA	100	40-130		4/11/25 19:21
13C9-PFNA	103	40-130		4/11/25 19:21
13C6-PFDA	102	40-130		4/11/25 19:21
13C7-PFUnA	110	30-130		4/11/25 19:21
13C2-PFDoA	96.2	10-130		4/11/25 19:21
13C2-PFTeDA	92.6	10-130		4/11/25 19:21
13C3-PFBS	95.1	40-135		4/11/25 19:21
13C3-PFHxS	102	40-130		4/11/25 19:21
13C8-PFOS	103	40-130		4/11/25 19:21
13C2-4:2FTS	99.8	40-200		4/11/25 19:21
13C2-6:2FTS	105	40-200		4/11/25 19:21
13C2-8:2FTS	101	40-300		4/11/25 19:21
13C8-PFOSA	97.0	40-130		4/11/25 19:21
D3-NMeFOSA	80.2	10-130		4/11/25 19:21
D5-NEtFOSA	83.3	10-130		4/11/25 19:21
D3-NMeFOSAA	94.3	40-170		4/11/25 19:21
D5-NEtFOSAA	94.1	25-135		4/11/25 19:21
D7-NMeFOSE	84.4	10-130		4/11/25 19:21
D9-NEtFOSE	82.9	10-130		4/11/25 19:21
13C3-HFPO-DA	99.6	40-130		4/11/25 19:21

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: BMW-5 | Sampled: 4/1/2025 20:30

Sample ID: 25D0150-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoropentanoic acid (PFPeA)	9.3	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorohexanoic acid (PFHxA)	16	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoroheptanoic acid (PFHpA)	4.6	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorooctanoic acid (PFOA)	12	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorononanoic acid (PFNA)	19	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorobutanesulfonic acid (PFBS)	6.8	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoropentanesulfonic acid (PFPeS)	8.1	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorohexanesulfonic acid (PFHxS)	85	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoroheptanesulfonic acid (PFHpS)	6.4	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorooctanesulfonic acid (PFOS)	200	1.5	ng/L	1	PF-23	EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: BMW-5 | Sampled: 4/1/2025 20:30

Sample ID: 25D0150-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 19:58	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	99.2	5-130		4/11/25 19:58
13C5-PFPeA	102	40-130		4/11/25 19:58
13C5-PFHxA	99.0	40-130		4/11/25 19:58
13C4-PFHpA	99.5	40-130		4/11/25 19:58
13C8-PFOA	95.7	40-130		4/11/25 19:58
13C9-PFNA	97.9	40-130		4/11/25 19:58
13C6-PFDA	96.2	40-130		4/11/25 19:58
13C7-PFUnA	104	30-130		4/11/25 19:58
13C2-PFDoA	88.3	10-130		4/11/25 19:58
13C2-PFTeDA	86.4	10-130		4/11/25 19:58
13C3-PFBS	93.8	40-135		4/11/25 19:58
13C3-PFHxS	99.6	40-130		4/11/25 19:58
13C8-PFOS	93.4	40-130		4/11/25 19:58
13C2-4:2FTS	134	40-200		4/11/25 19:58
13C2-6:2FTS	93.3	40-200		4/11/25 19:58
13C2-8:2FTS	89.3	40-300		4/11/25 19:58
13C8-PFOSA	90.8	40-130		4/11/25 19:58
D3-NMeFOSA	72.3	10-130		4/11/25 19:58
D5-NEtFOSA	72.8	10-130		4/11/25 19:58
D3-NMeFOSAA	93.0	40-170		4/11/25 19:58
D5-NEtFOSAA	88.9	25-135		4/11/25 19:58
D7-NMeFOSE	80.5	10-130		4/11/25 19:58
D9-NEtFOSE	78.7	10-130		4/11/25 19:58
13C3-HFPO-DA	98.7	40-130		4/11/25 19:58

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-6-50 | Sampled: 4/2/2025 09:55

Sample ID: 25D0150-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	9.8	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoropentanoic acid (PFPeA)	18	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorohexanoic acid (PFHxA)	31	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoroheptanoic acid (PFHpA)	11	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorooctanoic acid (PFOA)	22	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorononanoic acid (PFNA)	20	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorobutanesulfonic acid (PFBS)	21	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoropentanesulfonic acid (PFPeS)	27	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorohexanesulfonic acid (PFHxS)	400	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoroheptanesulfonic acid (PFHpS)	24	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorooctanesulfonic acid (PFOS)	1400	15	ng/L	10	D	EPA 1633	4/10/25	4/14/25 17:22	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-6-50 | Sampled: 4/2/2025 09:55

Sample ID: 25D0150-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:07	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.6	5-130		4/11/25 20:07
13C5-PFPeA	101	40-130		4/11/25 20:07
13C5-PFHxA	99.6	40-130		4/11/25 20:07
13C4-PFHpA	94.7	40-130		4/11/25 20:07
13C8-PFOA	103	40-130		4/11/25 20:07
13C9-PFNA	98.0	40-130		4/11/25 20:07
13C6-PFDA	94.2	40-130		4/11/25 20:07
13C7-PFUnA	107	30-130		4/11/25 20:07
13C2-PFDoA	93.3	10-130		4/11/25 20:07
13C2-PFTeDA	91.4	10-130		4/11/25 20:07
13C3-PFBS	104	40-135		4/11/25 20:07
13C3-PFHxS	102	40-130		4/11/25 20:07
13C8-PFOS	97.1	40-130		4/11/25 20:07
13C8-PFOS	56.1	40-130		4/14/25 17:22
13C2-4:2FTS	114	40-200		4/11/25 20:07
13C2-6:2FTS	103	40-200		4/11/25 20:07
13C2-8:2FTS	102	40-300		4/11/25 20:07
13C8-PFOSA	111	40-130		4/11/25 20:07
D3-NMeFOSA	73.1	10-130		4/11/25 20:07
D5-NEtFOSA	72.7	10-130		4/11/25 20:07
D3-NMeFOSAA	107	40-170		4/11/25 20:07
D5-NEtFOSAA	108	25-135		4/11/25 20:07
D7-NMeFOSE	96.9	10-130		4/11/25 20:07
D9-NEtFOSE	95.1	10-130		4/11/25 20:07
13C3-HFPO-DA	102	40-130		4/11/25 20:07

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: SBW | Sampled: 4/2/2025 10:40

Sample ID: 25D0150-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoropentanoic acid (PFPeA)	5.8	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorohexanoic acid (PFHxA)	9.9	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoroheptanoic acid (PFHpA)	2.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorooctanoic acid (PFOA)	8.9	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorononanoic acid (PFNA)	14	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorobutanesulfonic acid (PFBS)	7.5	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoropentanesulfonic acid (PFPeS)	9.5	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorohexanesulfonic acid (PFHxS)	110	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoroheptanesulfonic acid (PFHpS)	5.2	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorooctanesulfonic acid (PFOS)	98	1.7	ng/L	1	PF-23	EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
9Cl-PF3ONS (F53B Minor)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
11Cl-PF3OUdS (F53B Major)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: SBW | Sampled: 4/2/2025 10:40

Sample ID: 25D0150-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:17	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	85.9	5-130		4/11/25 20:17
13C5-PFPeA	86.6	40-130		4/11/25 20:17
13C5-PFHxA	85.3	40-130		4/11/25 20:17
13C4-PFHpA	82.5	40-130		4/11/25 20:17
13C8-PFOA	86.7	40-130		4/11/25 20:17
13C9-PFNA	86.8	40-130		4/11/25 20:17
13C6-PFDA	87.3	40-130		4/11/25 20:17
13C7-PFUnA	91.4	30-130		4/11/25 20:17
13C2-PFDoA	81.5	10-130		4/11/25 20:17
13C2-PFTeDA	79.0	10-130		4/11/25 20:17
13C3-PFBS	82.0	40-135		4/11/25 20:17
13C3-PFHxS	82.8	40-130		4/11/25 20:17
13C8-PFOS	84.1	40-130		4/11/25 20:17
13C2-4:2FTS	85.4	40-200		4/11/25 20:17
13C2-6:2FTS	89.7	40-200		4/11/25 20:17
13C2-8:2FTS	81.7	40-300		4/11/25 20:17
13C8-PFOSA	77.6	40-130		4/11/25 20:17
D3-NMeFOSA	67.0	10-130		4/11/25 20:17
D5-NEtFOSA	67.2	10-130		4/11/25 20:17
D3-NMeFOSAA	77.8	40-170		4/11/25 20:17
D5-NEtFOSAA	78.6	25-135		4/11/25 20:17
D7-NMeFOSE	69.7	10-130		4/11/25 20:17
D9-NEtFOSE	69.4	10-130		4/11/25 20:17
13C3-HFPO-DA	86.2	40-130		4/11/25 20:17

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-7-50 | Sampled: 4/2/2025 11:00

Sample ID: 25D0150-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoropentanoic acid (PFPeA)	4.3	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorohexanoic acid (PFHxA)	9.2	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoroheptanoic acid (PFHpA)	4.6	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorooctanoic acid (PFOA)	14	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorononanoic acid (PFNA)	16	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorobutanesulfonic acid (PFBS)	13	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoropentanesulfonic acid (PFPeS)	24	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorohexanesulfonic acid (PFHxS)	280	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoroheptanesulfonic acid (PFHpS)	12	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorooctanesulfonic acid (PFOS)	380	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-7-50 | Sampled: 4/2/2025 11:00

Sample ID: 25D0150-13

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:26	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	106	5-130		4/11/25 20:26
13C5-PFPeA	107	40-130		4/11/25 20:26
13C5-PFHxA	108	40-130		4/11/25 20:26
13C4-PFHpA	103	40-130		4/11/25 20:26
13C8-PFOA	106	40-130		4/11/25 20:26
13C9-PFNA	101	40-130		4/11/25 20:26
13C6-PFDA	110	40-130		4/11/25 20:26
13C7-PFUnA	119	30-130		4/11/25 20:26
13C2-PFDoA	100	10-130		4/11/25 20:26
13C2-PFTeDA	95.1	10-130		4/11/25 20:26
13C3-PFBS	103	40-135		4/11/25 20:26
13C3-PFHxS	104	40-130		4/11/25 20:26
13C8-PFOS	107	40-130		4/11/25 20:26
13C2-4:2FTS	114	40-200		4/11/25 20:26
13C2-6:2FTS	109	40-200		4/11/25 20:26
13C2-8:2FTS	97.9	40-300		4/11/25 20:26
13C8-PFOSA	101	40-130		4/11/25 20:26
D3-NMeFOSA	89.6	10-130		4/11/25 20:26
D5-NEtFOSA	89.1	10-130		4/11/25 20:26
D3-NMeFOSAA	100	40-170		4/11/25 20:26
D5-NEtFOSAA	99.5	25-135		4/11/25 20:26
D7-NMeFOSE	90.4	10-130		4/11/25 20:26
D9-NEtFOSE	88.3	10-130		4/11/25 20:26
13C3-HFPO-DA	102	40-130		4/11/25 20:26

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-7-100 | Sampled: 4/2/2025 11:50

Sample ID: 25D0150-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorohexanesulfonic acid (PFHxS)	25	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorooctanesulfonic acid (PFOS)	62	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: OB-7-100 | Sampled: 4/2/2025 11:50

Sample ID: 25D0150-14

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 20:36	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.8	5-130		4/11/25 20:36
13C5-PFPeA	98.0	40-130		4/11/25 20:36
13C5-PFHxA	101	40-130		4/11/25 20:36
13C4-PFHpA	94.5	40-130		4/11/25 20:36
13C8-PFOA	98.3	40-130		4/11/25 20:36
13C9-PFNA	96.9	40-130		4/11/25 20:36
13C6-PFDA	94.5	40-130		4/11/25 20:36
13C7-PFUnA	103	30-130		4/11/25 20:36
13C2-PFDoA	92.5	10-130		4/11/25 20:36
13C2-PFTeDA	82.7	10-130		4/11/25 20:36
13C3-PFBS	98.1	40-135		4/11/25 20:36
13C3-PFHxS	95.8	40-130		4/11/25 20:36
13C8-PFOS	102	40-130		4/11/25 20:36
13C2-4:2FTS	144	40-200		4/11/25 20:36
13C2-6:2FTS	97.4	40-200		4/11/25 20:36
13C2-8:2FTS	83.8	40-300		4/11/25 20:36
13C8-PFOSA	91.7	40-130		4/11/25 20:36
D3-NMeFOSA	73.3	10-130		4/11/25 20:36
D5-NEtFOSA	76.3	10-130		4/11/25 20:36
D3-NMeFOSAA	89.9	40-170		4/11/25 20:36
D5-NEtFOSAA	91.2	25-135		4/11/25 20:36
D7-NMeFOSE	80.5	10-130		4/11/25 20:36
D9-NEtFOSE	78.8	10-130		4/11/25 20:36
13C3-HFPO-DA	99.7	40-130		4/11/25 20:36

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: SBMW-1 | Sampled: 4/2/2025 12:15

Sample ID: 25D0150-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

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Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0150

Date Received: 4/3/2025

Field Sample #: SBMW-1 | Sampled: 4/2/2025 12:15

Sample ID: 25D0150-15

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/10/25	4/11/25 20:45	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	102	5-130		4/11/25 20:45
13C5-PFPeA	105	40-130		4/11/25 20:45
13C5-PFHxA	102	40-130		4/11/25 20:45
13C4-PFHpA	98.7	40-130		4/11/25 20:45
13C8-PFOA	102	40-130		4/11/25 20:45
13C9-PFNA	100	40-130		4/11/25 20:45
13C6-PFDA	101	40-130		4/11/25 20:45
13C7-PFUnA	109	30-130		4/11/25 20:45
13C2-PFDoA	94.2	10-130		4/11/25 20:45
13C2-PFTeDA	91.5	10-130		4/11/25 20:45
13C3-PFBS	96.2	40-135		4/11/25 20:45
13C3-PFHxS	99.8	40-130		4/11/25 20:45
13C8-PFOS	97.4	40-130		4/11/25 20:45
13C2-4:2FTS	102	40-200		4/11/25 20:45
13C2-6:2FTS	104	40-200		4/11/25 20:45
13C2-8:2FTS	101	40-300		4/11/25 20:45
13C8-PFOSA	92.1	40-130		4/11/25 20:45
D3-NMeFOSA	68.0	10-130		4/11/25 20:45
D5-NEtFOSA	63.6	10-130		4/11/25 20:45
D3-NMeFOSAA	92.1	40-170		4/11/25 20:45
D5-NEtFOSAA	88.3	25-135		4/11/25 20:45
D7-NMeFOSE	79.4	10-130		4/11/25 20:45
D9-NEtFOSE	78.5	10-130		4/11/25 20:45
13C3-HFPO-DA	101	40-130		4/11/25 20:45

Pace Analytical Services, LLC - East Longmeadow, Ma

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Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0150-01 [GM-13D]	B402430	541	4.00	04/10/25
25D0150-02 [W7D]	B402430	496	4.00	04/10/25
25D0150-03 [GM-24D]	B402430	547	4.00	04/10/25
25D0150-04 [GM-24S]	B402430	540	4.00	04/10/25
25D0150-05 [GM-23D]	B402430	485	4.00	04/10/25
25D0150-06 [GM-15S]	B402430	510	4.00	04/10/25
25D0150-07 [GM-23S]	B402430	486	4.00	04/10/25
25D0150-08 [GM-15D]	B402430	536	4.00	04/10/25
25D0150-09 [OB-6-100]	B402430	489	4.00	04/10/25
25D0150-10 [BMW-5]	B402430	531	4.00	04/10/25
25D0150-11 [OB-6-50]	B402430	516	4.00	04/10/25
25D0150-11RE1 [OB-6-50]	B402430	516	4.00	04/10/25
25D0150-12 [SBW]	B402430	475	4.00	04/10/25
25D0150-13 [OB-7-50]	B402430	527	4.00	04/10/25
25D0150-14 [OB-7-100]	B402430	498	4.00	04/10/25
25D0150-15 [SBMW-1]	B402430	535	4.00	04/10/25

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402430 - EPA 1633										
Blank (B402430-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*80.1*		ng/L	78.78		102	5-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402430 - EPA 1633										
Blank (B402430-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C5-PFPeA	*40.3*		ng/L	39.39		102	40-130			
Surrogate: 13C5-PFHxA	*19.9*		ng/L	19.70		101	40-130			
Surrogate: 13C4-PFHpA	*18.6*		ng/L	19.70		94.6	40-130			
Surrogate: 13C8-PFOA	*21.3*		ng/L	19.70		108	40-130			
Surrogate: 13C9-PFNA	*9.92*		ng/L	9.848		101	40-130			
Surrogate: 13C6-PFDA	*10.1*		ng/L	9.848		102	40-130			
Surrogate: 13C7-PFUnA	*10.9*		ng/L	9.848		110	30-130			
Surrogate: 13C2-PFDoA	*8.87*		ng/L	9.848		90.1	10-130			
Surrogate: 13C2-PFTeDA	*8.91*		ng/L	9.848		90.5	10-130			
Surrogate: 13C3-PFBS	*18.3*		ng/L	19.70		92.9	40-135			
Surrogate: 13C3-PFHxS	*19.8*		ng/L	19.70		101	40-130			
Surrogate: 13C8-PFOS	*19.3*		ng/L	19.70		98.0	40-130			
Surrogate: 13C2-4:2FTS	*45.3*		ng/L	39.39		115	40-200			
Surrogate: 13C2-6:2FTS	*43.7*		ng/L	39.39		111	40-200			
Surrogate: 13C2-8:2FTS	*42.2*		ng/L	39.39		107	40-300			
Surrogate: 13C8-PFOSA	*17.6*		ng/L	19.70		89.3	40-130			
Surrogate: D3-NMeFOSA	*15.1*		ng/L	19.70		76.7	10-130			
Surrogate: D5-NEtFOSA	*14.9*		ng/L	19.70		75.7	10-130			
Surrogate: D3-NMeFOSAA	*36.2*		ng/L	39.39		91.9	40-170			
Surrogate: D5-NEtFOSAA	*36.2*		ng/L	39.39		91.9	25-135			
Surrogate: D7-NMeFOSE	*163*		ng/L	197.0		82.8	10-130			
Surrogate: D9-NEtFOSE	*158*		ng/L	197.0		80.3	10-130			
Surrogate: 13C3-HFPO-DA	*78.2*		ng/L	78.78		99.2	40-130			
LCS (B402430-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	90.9	6.3	ng/L	78.82		115	70-140			
Perfluoropentanoic acid (PFPeA)	45.4	3.2	ng/L	39.41		115	65-135			
Perfluorohexanoic acid (PFHxA)	23.1	1.6	ng/L	19.71		117	70-145			
Perfluoroheptanoic acid (PFHpA)	23.4	1.6	ng/L	19.71		119	70-150			
Perfluorooctanoic acid (PFOA)	19.9	1.6	ng/L	19.71		101	70-150			
Perfluorononanoic acid (PFNA)	22.7	1.6	ng/L	19.71		115	70-150			
Perfluorodecanoic acid (PFDA)	23.3	1.6	ng/L	19.71		118	70-140			
Perfluoroundecanoic acid (PFUnA)	23.1	1.6	ng/L	19.71		117	70-145			
Perfluorododecanoic acid (PFDoA)	22.9	1.6	ng/L	19.71		116	70-140			
Perfluorotridecanoic acid (PFTrDA)	22.8	1.6	ng/L	19.71		116	65-140			
Perfluorotetradecanoic acid (PFTeDA)	23.3	1.6	ng/L	19.71		118	60-140			
Perfluorobutanesulfonic acid (PFBS)	21.2	1.6	ng/L	17.50		121	60-145			
Perfluoropentanesulfonic acid (PFPeS)	20.7	1.6	ng/L	18.52		112	65-140			
Perfluorohexanesulfonic acid (PFHxS)	18.9	1.6	ng/L	17.97		105	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	23.9	1.6	ng/L	18.76		127	70-150			
Perfluorooctanesulfonic acid (PFOS)	21.4	1.6	ng/L	18.29		117	55-150			
Perfluorononanesulfonic acid (PFNS)	22.5	1.6	ng/L	18.92		119	65-145			
Perfluorodecanesulfonic acid (PFDS)	21.2	1.6	ng/L	19.00		112	60-145			
Perfluorododecanesulfonic acid (PFDoS)	20.6	1.6	ng/L	19.08		108	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	89.2	6.3	ng/L	73.86		121	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	94.7	6.3	ng/L	74.96		126	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	91.8	6.3	ng/L	75.67		121	60-150			
Perfluorooctanesulfonamide (PFOSA)	22.9	1.6	ng/L	19.71		116	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.4	1.6	ng/L	19.71		119	60-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402430 - EPA 1633										
LCS (B402430-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	22.3	1.6	ng/L	19.71		113	65-145			
N-MeFOSAA (NMeFOSAA)	22.3	1.6	ng/L	19.71		113	50-140			
N-EtFOSAA (NEtFOSAA)	21.2	1.6	ng/L	19.71		107	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	230	16	ng/L	197.1		117	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	234	16	ng/L	197.1		119	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	93.4	6.3	ng/L	78.82		119	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.2	6.3	ng/L	74.49		126	65-145			
9Cl-PF3ONS (F53B Minor)	95.7	6.3	ng/L	73.54		130	70-155			
11Cl-PF3OUdS (F53B Major)	85.1	6.3	ng/L	73.30		116	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	111	7.9	ng/L	98.53		112	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	604	39	ng/L	492.6		123	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	572	39	ng/L	492.6		116	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	43.2	3.2	ng/L	35.15		123	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	45.7	3.2	ng/L	39.41		116	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	44.8	3.2	ng/L	39.41		114	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	45.1	3.2	ng/L	39.41		114	50-150			
Surrogate: 13C4-PFBA	*74.9*		ng/L	78.82		95.0	5-130			
Surrogate: 13C5-PFPeA	*37.7*		ng/L	39.41		95.6	40-130			
Surrogate: 13C5-PFHxA	*18.4*		ng/L	19.71		93.3	40-130			
Surrogate: 13C4-PFHpA	*17.2*		ng/L	19.71		87.3	40-130			
Surrogate: 13C8-PFOA	*19.7*		ng/L	19.71		99.9	40-130			
Surrogate: 13C9-PFNA	*9.26*		ng/L	9.853		94.0	40-130			
Surrogate: 13C6-PFDA	*9.72*		ng/L	9.853		98.7	40-130			
Surrogate: 13C7-PFUnA	*11.2*		ng/L	9.853		114	30-130			
Surrogate: 13C2-PFDoA	*9.38*		ng/L	9.853		95.2	10-130			
Surrogate: 13C2-PFTeDA	*9.15*		ng/L	9.853		92.9	10-130			
Surrogate: 13C3-PFBS	*17.6*		ng/L	19.71		89.4	40-135			
Surrogate: 13C3-PFHxS	*19.5*		ng/L	19.71		99.1	40-130			
Surrogate: 13C8-PFOS	*18.3*		ng/L	19.71		92.8	40-130			
Surrogate: 13C2-4:2FTS	*41.3*		ng/L	39.41		105	40-200			
Surrogate: 13C2-6:2FTS	*40.4*		ng/L	39.41		103	40-200			
Surrogate: 13C2-8:2FTS	*38.2*		ng/L	39.41		97.0	40-300			
Surrogate: 13C8-PFOSA	*17.5*		ng/L	19.71		88.8	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.71		73.4	10-130			
Surrogate: D5-NEtFOSA	*14.5*		ng/L	19.71		73.8	10-130			
Surrogate: D3-NMeFOSAA	*35.6*		ng/L	39.41		90.3	40-170			
Surrogate: D5-NEtFOSAA	*35.0*		ng/L	39.41		88.7	25-135			
Surrogate: D7-NMeFOSE	*166*		ng/L	197.1		84.2	10-130			
Surrogate: D9-NEtFOSE	*161*		ng/L	197.1		81.6	10-130			
Surrogate: 13C3-HFPO-DA	*75.1*		ng/L	78.82		95.2	40-130			
MRL Check (B402430-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	12.1	6.3	ng/L	12.63		96.0	70-140			
Perfluoropentanoic acid (PFPeA)	5.82	3.2	ng/L	6.313		92.2	65-135			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402430 - EPA 1633										
MRL Check (B402430-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorohexanoic acid (PFHxA)	3.02	1.6	ng/L	3.156		95.5	70-145			
Perfluoroheptanoic acid (PFHpA)	2.83	1.6	ng/L	3.156		89.7	70-150			
Perfluorooctanoic acid (PFOA)	2.91	1.6	ng/L	3.156		92.1	70-150			
Perfluorononanoic acid (PFNA)	3.02	1.6	ng/L	3.156		95.8	70-150			
Perfluorodecanoic acid (PFDA)	2.88	1.6	ng/L	3.156		91.3	70-140			
Perfluoroundecanoic acid (PFUnA)	2.73	1.6	ng/L	3.156		86.6	70-145			
Perfluorododecanoic acid (PFDoA)	2.84	1.6	ng/L	3.156		89.8	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.79	1.6	ng/L	3.156		88.5	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.71	1.6	ng/L	3.156		86.0	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.83	1.6	ng/L	2.803		101	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.68	1.6	ng/L	2.967		90.2	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.50	1.6	ng/L	2.879		87.0	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.52	1.6	ng/L	3.005		84.0	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.73	1.6	ng/L	2.929		93.3	55-150			
Perfluorononanesulfonic acid (PFNS)	2.39	1.6	ng/L	3.030		78.8	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.52	1.6	ng/L	3.043		82.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.55	1.6	ng/L	3.055		83.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	11.4	6.3	ng/L	11.83		96.4	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.4	6.3	ng/L	12.01		95.2	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	11.2	6.3	ng/L	12.12		92.8	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.99	1.6	ng/L	3.156		94.6	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.06	1.6	ng/L	3.156		97.0	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.99	1.6	ng/L	3.156		94.6	65-145			
N-MeFOSAA (NMeFOSAA)	2.71	1.6	ng/L	3.156		86.0	50-140			
N-EtFOSAA (NEtFOSAA)	2.66	1.6	ng/L	3.156		84.4	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	29.0	16	ng/L	31.56		91.7	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	28.8	16	ng/L	31.56		91.1	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.6	6.3	ng/L	12.63		91.5	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.9	6.3	ng/L	11.93		99.3	65-145			
9Cl-PF3ONS (F53B Minor)	11.5	6.3	ng/L	11.78		97.8	70-155			
11Cl-PF3OUdS (F53B Major)	10.2	6.3	ng/L	11.74		87.1	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	13.5	7.9	ng/L	15.78		85.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	74.5	39	ng/L	78.91		94.4	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	72.6	39	ng/L	78.91		92.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.59	3.2	ng/L	5.631		99.3	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	5.28	3.2	ng/L	6.313		83.6	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.82	3.2	ng/L	6.313		92.2	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	5.24	3.2	ng/L	6.313		83.1	50-150			
Surrogate: 13C4-PFBA	*76.3*		ng/L	78.91		96.6	5-130			
Surrogate: 13C5-PFPeA	*39.4*		ng/L	39.46		99.8	40-130			
Surrogate: 13C5-PFHxA	*19.1*		ng/L	19.73		96.6	40-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402430 - EPA 1633										
MRL Check (B402430-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C4-PFHpA	*18.3*		ng/L	19.73		92.6	40-130			
Surrogate: 13C8-PFOA	*19.7*		ng/L	19.73		99.9	40-130			
Surrogate: 13C9-PFNA	*9.32*		ng/L	9.864		94.5	40-130			
Surrogate: 13C6-PFDA	*10.0*		ng/L	9.864		102	40-130			
Surrogate: 13C7-PFUnA	*10.7*		ng/L	9.864		108	30-130			
Surrogate: 13C2-PFDoA	*9.29*		ng/L	9.864		94.2	10-130			
Surrogate: 13C2-PFTeDA	*9.48*		ng/L	9.864		96.1	10-130			
Surrogate: 13C3-PFBS	*17.4*		ng/L	19.73		88.0	40-135			
Surrogate: 13C3-PFHxS	*19.4*		ng/L	19.73		98.6	40-130			
Surrogate: 13C8-PFOS	*19.3*		ng/L	19.73		97.6	40-130			
Surrogate: 13C2-4:2FTS	*41.8*		ng/L	39.46		106	40-200			
Surrogate: 13C2-6:2FTS	*40.8*		ng/L	39.46		103	40-200			
Surrogate: 13C2-8:2FTS	*37.6*		ng/L	39.46		95.3	40-300			
Surrogate: 13C8-PFOSA	*17.3*		ng/L	19.73		87.7	40-130			
Surrogate: D3-NMeFOSA	*14.9*		ng/L	19.73		75.5	10-130			
Surrogate: D5-NEtFOSA	*14.5*		ng/L	19.73		73.5	10-130			
Surrogate: D3-NMeFOSAA	*37.0*		ng/L	39.46		93.9	40-170			
Surrogate: D5-NEtFOSAA	*34.5*		ng/L	39.46		87.4	25-135			
Surrogate: D7-NMeFOSE	*161*		ng/L	197.3		81.6	10-130			
Surrogate: D9-NEtFOSE	*160*		ng/L	197.3		81.1	10-130			
Surrogate: 13C3-HFPO-DA	*79.4*		ng/L	78.91		101	40-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Water	
Perfluorobutanoic acid (PFBA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanoic acid (PFNA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	CT,NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	CT,NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	CT,NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	CT,NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2026
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VA	Commonwealth of Virginia	460217	12/14/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025
LA	State of Louisiana Dept. of Env. Quality Office of Env. Services	05130	06/30/2025

250150 RT

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Doc # 381 Rev 2_06262019

Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Company Name: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 184432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 513140
Invoice Recipient: MBF
Sampled By: B. Mikula / A. Lavy

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Sample
○ Field Filtered
○ Lab to Filter

Orthophosphate Sample
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAA's EPA 1633
	GM-13D	4/1/25	1310	G	GW				2			X
	W7D		1450									
	GM-24D		1525									
	GM-24S		1620									
	GM-23D		1655									
	GM-15S		1720									
	GM-23S		1800									
	GM-15D		1830									
	OB-6-100		1955									
	BMW-5		2030									

[2] Preservation Code

Lancaster Lab Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
[signature]	4/2/25 1300
Received by: (signature) Romeo Mack/Pace	Date/Time: 4/2/25 1300
Relinquished by: (signature) Romeo Mack/Pace	Date/Time: 4/2/25 1515
Received by: (signature) Buffalo SK	Date/Time: 4/2/25 1515
Relinquished by: (signature) Russell B Bishop	Date/Time: 4-2-25/16:17
Received by: (signature) [signature]	Date/Time: 4/2 23:30
Relinquished by: (signature) [signature]	Date/Time: 4/3 08:00
Received by: (signature) [signature] 0.9	Date/Time: 4/3/25 800

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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250150 RF

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Doc # 381 Rev 2_06262019

Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Company Name: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 513140
Invoice Recipient: MBI
Sampled By: B. Mikula / A. Lavy

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush (Approval Required)
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS EPA 1633
	OB-6-50	4/2/25	0955	G	GW				2			X
	SBW	"	1040	"	"				"			"
	OB-7-50		1100									
	OB-7-100		1150									
	SBMW-1		1215									

[2] Preservation Code

Contest Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
[signature]	4/2/25 1300
Received by: (signature)	Date/Time:
[signature] FedEx	4/2/25 1300
Relinquished by: (signature)	Date/Time:
[signature] FedEx	4/2/25 1515
Received by: (signature)	Date/Time:
[signature] S/C	4/2/25 1515
Relinquished by: (signature)	Date/Time:
[signature]	4-2-25 1617
Received by: (signature)	Date/Time:
[signature]	4/2 23:30
Relinquished by: (signature)	Date/Time:
[signature]	4/3 0830
Received by: (signature)	Date/Time:
[signature] 0.9	4/3/25 0200

Client Comments:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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Pace	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client: Michael Baker International

Project: Saegertown PFAS

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: Saegertown, PA

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk in ☐ Other ☐ _____

Received By / Date / Time: ER 4/3/25 0900

Back-Sheet By / Date / Time: MM 4/4/25 0135

Temperature Method: Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 0.9

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing - Using Acceptance Policy) Any False statement will be brought to the attention of the Client - True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Qualtrax ID: 120836

Soils Jars (Circle Amb/Clear)	16oz Amb/Clear																					
	8oz Amb/Clear																					
	4oz Amb/Clear																					
	2oz Amb/Clear																					
Ambers	1 Liter	Unpreserved																				
		HCL																				
		Sulfuric																				
	250mL	Sulfuric																				
		Phosphoric																				
		HCl																				
	100mL	Unpreserved																				
Plastics	1 Liter	Unpreserved																				
		Sulfuric																				
	500mL	Unpreserved		a	—	—	—	—	—	—	—	—	—	—	—	—	↓					
		Sulfuric																				
	250mL	Unpreserved																				
		Trizma																				
		Sulfuric																				
		Nitric																				
		NaOH																				
		Ammonium Acetate																				
		NaOH/Zinc																				
VOA Vials		Unpreserved																				
		HCl																				
		MeOH																				
		D.I. Water																				
		Bisulfate																				
Other / Fill in		Col/Bact																				
Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Pace MIDWEST DIVISION	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 16, 2025

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 25D0211

Enclosed are results of analyses for samples as received by the laboratory on April 2, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

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Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 4/16/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25D0211

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
BMW-8	25D0211-01	Ground Water		EPA 1633	
BMW-9	25D0211-02	Ground Water		EPA 1633	
BMW-1	25D0211-03	Ground Water		EPA 1633	
BMW-7	25D0211-04	Ground Water		EPA 1633	
BMW-4	25D0211-05	Ground Water		EPA 1633	
BMW-4 DUP	25D0211-06	Ground Water		EPA 1633	
BMW-6	25D0211-07	Ground Water		EPA 1633	
GM-14S	25D0211-08	Ground Water		EPA 1633	
GM-14D	25D0211-09	Ground Water		EPA 1633	
GM-13S	25D0211-10	Ground Water		EPA 1633	
W7S	25D0211-11	Ground Water		EPA 1633	
W7S-DUP	25D0211-12	Ground Water		EPA 1633	

Pace Analytical Services, LLC - East Longmeadow, Ma

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

EPA 1633

Qualifications:

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-4:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-6:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-8:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-PFDA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-PFDoA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-PFHxA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C2-PFTeDA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C3-HFPO-DA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C3-PFBA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C3-PFBS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C3-PFHxS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C4-PFBA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C4-PFHpA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C4-PFOA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C4-PFOS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C5-PFHxA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C5-PFNA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C5-PFPeA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C6-PFDA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C7-PFUnA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C8-PFOA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C8-PFOS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C8-PFOSA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

13C9-PFNA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

18O2-PFHxS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

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D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTC
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

9Cl-PF3ONS (F53B Minor)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D3-NMeFOSA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D3-NMeFOSAA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D5-NEtFOSA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D5-NEtFOSAA
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D7-NMeFOSE
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

D9-NEtFOSE
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Hexafluoropropylene oxide dimer acid (HFPO-DA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-EtFOSAA (NEtFOSAA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-MeFOSAA (NMeFOSAA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

N-methylperfluorooctanesulfonamidoethanol(NMeF
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoro-3-methoxypropanoic acid (PFMPA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoro-4-methoxybutanoic acid (PFMBA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorobutanesulfonic acid (PFBS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorobutanoic acid (PFBA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorodecanesulfonic acid (PFDS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorodecanoic acid (PFDA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorododecanesulfonic acid (PFDoS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorododecanoic acid (PFDoA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Pace Analytical Services, LLC - East Longmeadow, Ma

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D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

Perfluoroheptanesulfonic acid (PFHpS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoroheptanoic acid (PFHpA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorohexanesulfonic acid (PFHxS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorohexanoic acid (PFHxA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorononanesulfonic acid (PFNS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorononanoic acid (PFNA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorooctanesulfonamide (PFOSA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorooctanesulfonic acid (PFOS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorooctanoic acid (PFOA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoropentanesulfonic acid (PFPeS)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoropentanoic acid (PFPeA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorotetradecanoic acid (PFTeDA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluorotridecanoic acid (PFTrDA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

Perfluoroundecanoic acid (PFUnA)
25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP]

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0211-01RE1[BMW-8], 25D0211-02RE1[BMW-9], 25D0211-03RE1[BMW-1], 25D0211-04RE1[BMW-7], 25D0211-05RE1[BMW-4], 25D0211-06RE1[BMW-4 DUP], 25D0211-07RE1[BMW-6], 25D0211-08RE1[GM-14S], 25D0211-09RE1[GM-14D], 25D0211-10RE1[GM-13S], 25D0211-11RE1[W7S], 25D0211-12RE1[W7S-DUP], B402935-BLK1, B402935-MRL1

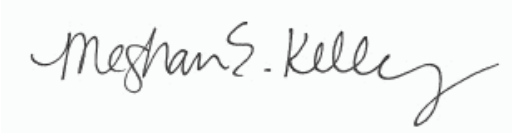
PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
25D0211-11RE1[W7S], 25D0211-12RE1[W7S-DUP]

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-8 | Sampled: 3/31/2025 15:20

Sample ID: 25D0211-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 9:53	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-8 | Sampled: 3/31/2025 15:20

Sample ID: 25D0211-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 9:53	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.6	5-130		4/15/25 9:53
13C5-PFPeA	79.0	40-130		4/15/25 9:53
13C5-PFHxA	81.9	40-130		4/15/25 9:53
13C4-PFHpA	78.6	40-130		4/15/25 9:53
13C8-PFOA	85.0	40-130		4/15/25 9:53
13C9-PFNA	79.0	40-130		4/15/25 9:53
13C6-PFDA	70.1	40-130		4/15/25 9:53
13C7-PFUnA	65.4	30-130		4/15/25 9:53
13C2-PFDoA	61.7	10-130		4/15/25 9:53
13C2-PFTeDA	55.5	10-130		4/15/25 9:53
13C3-PFBS	79.1	40-135		4/15/25 9:53
13C3-PFHxS	87.2	40-130		4/15/25 9:53
13C8-PFOS	76.3	40-130		4/15/25 9:53
13C2-4:2FTS	94.0	40-200		4/15/25 9:53
13C2-6:2FTS	82.7	40-200		4/15/25 9:53
13C2-8:2FTS	64.5	40-300		4/15/25 9:53
13C8-PFOSA	58.9	40-130		4/15/25 9:53
D3-NMeFOSA	51.5	10-130		4/15/25 9:53
D5-NEtFOSA	49.1	10-130		4/15/25 9:53
D3-NMeFOSAA	63.7	40-170		4/15/25 9:53
D5-NEtFOSAA	58.6	25-135		4/15/25 9:53
D7-NMeFOSE	45.9	10-130		4/15/25 9:53
D9-NEtFOSE	43.2	10-130		4/15/25 9:53
13C3-HFPO-DA	89.5	40-130		4/15/25 9:53

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-9 | Sampled: 3/31/2025 16:35

Sample ID: 25D0211-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorooctanoic acid (PFOA)	3.2	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorobutanesulfonic acid (PFBS)	18	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
9Cl-PF3ONS (F53B Minor)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
11Cl-PF3OUdS (F53B Major)	ND	5.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.4	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 10:02	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-9 | Sampled: 3/31/2025 16:35

Sample ID: 25D0211-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:02	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	77.8	5-130		4/15/25 10:02
13C5-PFPeA	74.9	40-130		4/15/25 10:02
13C5-PFHxA	78.2	40-130		4/15/25 10:02
13C4-PFHpA	73.7	40-130		4/15/25 10:02
13C8-PFOA	83.5	40-130		4/15/25 10:02
13C9-PFNA	76.9	40-130		4/15/25 10:02
13C6-PFDA	74.4	40-130		4/15/25 10:02
13C7-PFUnA	73.8	30-130		4/15/25 10:02
13C2-PFDoA	61.1	10-130		4/15/25 10:02
13C2-PFTeDA	59.4	10-130		4/15/25 10:02
13C3-PFBS	75.9	40-135		4/15/25 10:02
13C3-PFHxS	83.6	40-130		4/15/25 10:02
13C8-PFOS	72.5	40-130		4/15/25 10:02
13C2-4:2FTS	93.1	40-200		4/15/25 10:02
13C2-6:2FTS	84.3	40-200		4/15/25 10:02
13C2-8:2FTS	67.2	40-300		4/15/25 10:02
13C8-PFOSA	56.4	40-130		4/15/25 10:02
D3-NMeFOSA	50.2	10-130		4/15/25 10:02
D5-NEtFOSA	47.8	10-130		4/15/25 10:02
D3-NMeFOSAA	66.3	40-170		4/15/25 10:02
D5-NEtFOSAA	65.2	25-135		4/15/25 10:02
D7-NMeFOSE	44.5	10-130		4/15/25 10:02
D9-NEtFOSE	43.0	10-130		4/15/25 10:02
13C3-HFPO-DA	83.3	40-130		4/15/25 10:02

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-1 | Sampled: 3/31/2025 17:55

Sample ID: 25D0211-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 10:12	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-1 | Sampled: 3/31/2025 17:55

Sample ID: 25D0211-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 10:12	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	90.7	5-130		4/15/25 10:12
13C5-PFPeA	90.6	40-130		4/15/25 10:12
13C5-PFHxA	91.6	40-130		4/15/25 10:12
13C4-PFHpA	85.0	40-130		4/15/25 10:12
13C8-PFOA	98.6	40-130		4/15/25 10:12
13C9-PFNA	92.3	40-130		4/15/25 10:12
13C6-PFDA	88.8	40-130		4/15/25 10:12
13C7-PFUnA	87.7	30-130		4/15/25 10:12
13C2-PFDoA	78.8	10-130		4/15/25 10:12
13C2-PFTeDA	72.0	10-130		4/15/25 10:12
13C3-PFBS	79.5	40-135		4/15/25 10:12
13C3-PFHxS	88.6	40-130		4/15/25 10:12
13C8-PFOS	85.2	40-130		4/15/25 10:12
13C2-4:2FTS	96.8	40-200		4/15/25 10:12
13C2-6:2FTS	92.9	40-200		4/15/25 10:12
13C2-8:2FTS	76.8	40-300		4/15/25 10:12
13C8-PFOSA	73.2	40-130		4/15/25 10:12
D3-NMeFOSA	67.2	10-130		4/15/25 10:12
D5-NEtFOSA	63.2	10-130		4/15/25 10:12
D3-NMeFOSAA	89.8	40-170		4/15/25 10:12
D5-NEtFOSAA	83.5	25-135		4/15/25 10:12
D7-NMeFOSE	59.5	10-130		4/15/25 10:12
D9-NEtFOSE	56.9	10-130		4/15/25 10:12
13C3-HFPO-DA	97.8	40-130		4/15/25 10:12

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-7 | Sampled: 3/31/2025 18:00

Sample ID: 25D0211-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorooctanoic acid (PFOA)	1.9	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
9Cl-PF3ONS (F53B Minor)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
11Cl-PF3OUdS (F53B Major)	ND	6.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	37	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 10:21	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	37	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-7 | Sampled: 3/31/2025 18:00

Sample ID: 25D0211-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	85.4	5-130		4/15/25 10:21
13C5-PFPeA	83.5	40-130		4/15/25 10:21
13C5-PFHxA	85.8	40-130		4/15/25 10:21
13C4-PFHpA	78.4	40-130		4/15/25 10:21
13C8-PFOA	84.8	40-130		4/15/25 10:21
13C9-PFNA	88.4	40-130		4/15/25 10:21
13C6-PFDA	84.8	40-130		4/15/25 10:21
13C7-PFUnA	86.4	30-130		4/15/25 10:21
13C2-PFDoA	74.0	10-130		4/15/25 10:21
13C2-PFTeDA	70.7	10-130		4/15/25 10:21
13C3-PFBS	77.5	40-135		4/15/25 10:21
13C3-PFHxS	84.4	40-130		4/15/25 10:21
13C8-PFOS	77.4	40-130		4/15/25 10:21
13C2-4:2FTS	92.6	40-200		4/15/25 10:21
13C2-6:2FTS	93.2	40-200		4/15/25 10:21
13C2-8:2FTS	79.1	40-300		4/15/25 10:21
13C8-PFOSA	62.6	40-130		4/15/25 10:21
D3-NMeFOSA	57.0	10-130		4/15/25 10:21
D5-NEtFOSA	55.9	10-130		4/15/25 10:21
D3-NMeFOSAA	67.4	40-170		4/15/25 10:21
D5-NEtFOSAA	63.5	25-135		4/15/25 10:21
D7-NMeFOSE	51.9	10-130		4/15/25 10:21
D9-NEtFOSE	50.1	10-130		4/15/25 10:21
13C3-HFPO-DA	90.3	40-130		4/15/25 10:21

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-4 | Sampled: 3/31/2025 18:55

Sample ID: 25D0211-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoropentanoic acid (PFPeA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorohexanoic acid (PFHxA)	23	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoroheptanoic acid (PFHpA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorooctanoic acid (PFOA)	20	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorononanoic acid (PFNA)	22	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorodecanoic acid (PFDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoroundecanoic acid (PFUnA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorododecanoic acid (PFDoA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorotridecanoic acid (PFTrDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorobutanesulfonic acid (PFBS)	20	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoropentanesulfonic acid (PFPeS)	23	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorohexanesulfonic acid (PFHxS)	320	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoroheptanesulfonic acid (PFHpS)	25	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorooctanesulfonic acid (PFOS)	1700	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorononanesulfonic acid (PFNS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorodecanesulfonic acid (PFDS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluorooctanesulfonamide (PFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-MeFOSAA (NMeFOSAA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-EtFOSAA (NEtFOSAA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	80	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	80	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
9Cl-PF3ONS (F53B Minor)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
11Cl-PF3OUdS (F53B Major)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	40	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	200	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 10:30	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	200	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-4 | Sampled: 3/31/2025 18:55

Sample ID: 25D0211-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:30	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.9	5-130	D-01	4/15/25 10:30
13C5-PFPeA	82.1	40-130	D-01	4/15/25 10:30
13C5-PFHxA	83.3	40-130	D-01	4/15/25 10:30
13C4-PFHpA	79.1	40-130	D-01	4/15/25 10:30
13C8-PFOA	86.1	40-130	D-01	4/15/25 10:30
13C9-PFNA	84.3	40-130	D-01	4/15/25 10:30
13C6-PFDA	77.2	40-130	D-01	4/15/25 10:30
13C7-PFUnA	80.1	30-130	D-01	4/15/25 10:30
13C2-PFDoA	71.8	10-130	D-01	4/15/25 10:30
13C2-PFTeDA	67.6	10-130	D-01	4/15/25 10:30
13C3-PFBS	80.0	40-135	D-01	4/15/25 10:30
13C3-PFHxS	82.9	40-130	D-01	4/15/25 10:30
13C8-PFOS	76.4	40-130	D-01	4/15/25 10:30
13C2-4:2FTS	84.5	40-200	D-01	4/15/25 10:30
13C2-6:2FTS	87.1	40-200	D-01	4/15/25 10:30
13C2-8:2FTS	76.0	40-300	D-01	4/15/25 10:30
13C8-PFOSA	68.3	40-130	D-01	4/15/25 10:30
D3-NMeFOSA	63.0	10-130	D-01	4/15/25 10:30
D5-NEtFOSA	61.0	10-130	D-01	4/15/25 10:30
D3-NMeFOSAA	80.6	40-170	D-01	4/15/25 10:30
D5-NEtFOSAA	81.6	25-135	D-01	4/15/25 10:30
D7-NMeFOSE	57.5	10-130	D-01	4/15/25 10:30
D9-NEtFOSE	55.2	10-130	D-01	4/15/25 10:30
13C3-HFPO-DA	90.9	40-130	D-01	4/15/25 10:30

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-4 DUP | Sampled: 3/31/2025 19:00

Sample ID: 25D0211-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoropentanoic acid (PFPeA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorohexanoic acid (PFHxA)	21	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoroheptanoic acid (PFHpA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorooctanoic acid (PFOA)	18	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorononanoic acid (PFNA)	20	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorodecanoic acid (PFDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoroundecanoic acid (PFUnA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorododecanoic acid (PFDoA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorotridecanoic acid (PFTrDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorobutanesulfonic acid (PFBS)	21	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoropentanesulfonic acid (PFPeS)	23	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorohexanesulfonic acid (PFHxS)	300	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoroheptanesulfonic acid (PFHpS)	23	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorooctanesulfonic acid (PFOS)	1400	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorononanesulfonic acid (PFNS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorodecanesulfonic acid (PFDS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluorooctanesulfonamide (PFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-MeFOSAA (NMeFOSAA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-EtFOSAA (NEtFOSAA)	ND	8.0	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	80	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	80	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
9Cl-PF3ONS (F53B Minor)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
11Cl-PF3OUdS (F53B Major)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	40	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	200	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 10:39	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	200	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-4 DUP | Sampled: 3/31/2025 19:00

Sample ID: 25D0211-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	16	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 10:39	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	77.1	5-130	D-01	4/15/25 10:39
13C5-PFPeA	74.6	40-130	D-01	4/15/25 10:39
13C5-PFHxA	75.4	40-130	D-01	4/15/25 10:39
13C4-PFHpA	69.9	40-130	D-01	4/15/25 10:39
13C8-PFOA	78.3	40-130	D-01	4/15/25 10:39
13C9-PFNA	76.9	40-130	D-01	4/15/25 10:39
13C6-PFDA	70.2	40-130	D-01	4/15/25 10:39
13C7-PFUnA	73.1	30-130	D-01	4/15/25 10:39
13C2-PFDoA	63.6	10-130	D-01	4/15/25 10:39
13C2-PFTeDA	59.8	10-130	D-01	4/15/25 10:39
13C3-PFBS	71.6	40-135	D-01	4/15/25 10:39
13C3-PFHxS	75.8	40-130	D-01	4/15/25 10:39
13C8-PFOS	74.6	40-130	D-01	4/15/25 10:39
13C2-4:2FTS	78.9	40-200	D-01	4/15/25 10:39
13C2-6:2FTS	81.8	40-200	D-01	4/15/25 10:39
13C2-8:2FTS	70.7	40-300	D-01	4/15/25 10:39
13C8-PFOSA	64.3	40-130	D-01	4/15/25 10:39
D3-NMeFOSA	58.4	10-130	D-01	4/15/25 10:39
D5-NEtFOSA	56.1	10-130	D-01	4/15/25 10:39
D3-NMeFOSAA	79.1	40-170	D-01	4/15/25 10:39
D5-NEtFOSAA	74.4	25-135	D-01	4/15/25 10:39
D7-NMeFOSE	51.3	10-130	D-01	4/15/25 10:39
D9-NEtFOSE	48.7	10-130	D-01	4/15/25 10:39
13C3-HFPO-DA	83.2	40-130	D-01	4/15/25 10:39

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-6 | Sampled: 3/31/2025 19:00

Sample ID: 25D0211-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoropentanoic acid (PFPeA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorohexanoic acid (PFHxA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorooctanoic acid (PFOA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorobutanesulfonic acid (PFBS)	1.6	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorohexanesulfonic acid (PFHxS)	5.1	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 10:48	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: BMW-6 | Sampled: 3/31/2025 19:00

Sample ID: 25D0211-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.0	ng/L	1		EPA 1633	4/14/25	4/15/25 10:48	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	90.3	5-130		4/15/25 10:48
13C5-PFPeA	88.5	40-130		4/15/25 10:48
13C5-PFHxA	92.3	40-130		4/15/25 10:48
13C4-PFHpA	85.8	40-130		4/15/25 10:48
13C8-PFOA	96.9	40-130		4/15/25 10:48
13C9-PFNA	87.8	40-130		4/15/25 10:48
13C6-PFDA	89.7	40-130		4/15/25 10:48
13C7-PFUnA	86.5	30-130		4/15/25 10:48
13C2-PFDoA	74.4	10-130		4/15/25 10:48
13C2-PFTeDA	66.9	10-130		4/15/25 10:48
13C3-PFBS	80.5	40-135		4/15/25 10:48
13C3-PFHxS	87.0	40-130		4/15/25 10:48
13C8-PFOS	86.0	40-130		4/15/25 10:48
13C2-4:2FTS	100	40-200		4/15/25 10:48
13C2-6:2FTS	85.4	40-200		4/15/25 10:48
13C2-8:2FTS	74.1	40-300		4/15/25 10:48
13C8-PFOSA	70.7	40-130		4/15/25 10:48
D3-NMeFOSA	61.6	10-130		4/15/25 10:48
D5-NEtFOSA	57.2	10-130		4/15/25 10:48
D3-NMeFOSAA	78.7	40-170		4/15/25 10:48
D5-NEtFOSAA	73.0	25-135		4/15/25 10:48
D7-NMeFOSE	54.3	10-130		4/15/25 10:48
D9-NEtFOSE	51.8	10-130		4/15/25 10:48
13C3-HFPO-DA	99.0	40-130		4/15/25 10:48

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-14S | Sampled: 4/1/2025 10:05

Sample ID: 25D0211-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.1	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoropentanoic acid (PFPeA)	8.8	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorohexanoic acid (PFHxA)	6.3	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoroheptanoic acid (PFHpA)	2.6	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorooctanoic acid (PFOA)	4.0	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorobutanesulfonic acid (PFBS)	10	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorohexanesulfonic acid (PFHxS)	9.9	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorooctanesulfonic acid (PFOS)	6.3	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
9Cl-PF3ONS (F53B Minor)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
11Cl-PF3OUdS (F53B Major)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 11:26	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-14S | Sampled: 4/1/2025 10:05

Sample ID: 25D0211-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:26	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	89.3	5-130		4/15/25 11:26
13C5-PFPeA	87.0	40-130		4/15/25 11:26
13C5-PFHxA	88.4	40-130		4/15/25 11:26
13C4-PFHpA	85.9	40-130		4/15/25 11:26
13C8-PFOA	93.8	40-130		4/15/25 11:26
13C9-PFNA	86.7	40-130		4/15/25 11:26
13C6-PFDA	83.6	40-130		4/15/25 11:26
13C7-PFUnA	92.3	30-130		4/15/25 11:26
13C2-PFDoA	76.9	10-130		4/15/25 11:26
13C2-PFTeDA	68.4	10-130		4/15/25 11:26
13C3-PFBS	83.2	40-135		4/15/25 11:26
13C3-PFHxS	89.7	40-130		4/15/25 11:26
13C8-PFOS	84.5	40-130		4/15/25 11:26
13C2-4:2FTS	103	40-200		4/15/25 11:26
13C2-6:2FTS	82.6	40-200		4/15/25 11:26
13C2-8:2FTS	73.6	40-300		4/15/25 11:26
13C8-PFOSA	68.8	40-130		4/15/25 11:26
D3-NMeFOSA	63.4	10-130		4/15/25 11:26
D5-NEtFOSA	53.4	10-130		4/15/25 11:26
D3-NMeFOSAA	80.2	40-170		4/15/25 11:26
D5-NEtFOSAA	78.2	25-135		4/15/25 11:26
D7-NMeFOSE	55.3	10-130		4/15/25 11:26
D9-NEtFOSE	53.2	10-130		4/15/25 11:26
13C3-HFPO-DA	98.6	40-130		4/15/25 11:26

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-14D | Sampled: 4/1/2025 10:30

Sample ID: 25D0211-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 11:35	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-14D | Sampled: 4/1/2025 10:30

Sample ID: 25D0211-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:35	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	69.7	5-130		4/15/25 11:35
13C5-PFPeA	70.9	40-130		4/15/25 11:35
13C5-PFHxA	70.9	40-130		4/15/25 11:35
13C4-PFHpA	65.2	40-130		4/15/25 11:35
13C8-PFOA	77.1	40-130		4/15/25 11:35
13C9-PFNA	70.3	40-130		4/15/25 11:35
13C6-PFDA	66.5	40-130		4/15/25 11:35
13C7-PFUnA	60.9	30-130		4/15/25 11:35
13C2-PFDoA	49.7	10-130		4/15/25 11:35
13C2-PFTeDA	47.1	10-130		4/15/25 11:35
13C3-PFBS	67.9	40-135		4/15/25 11:35
13C3-PFHxS	71.0	40-130		4/15/25 11:35
13C8-PFOS	68.2	40-130		4/15/25 11:35
13C2-4:2FTS	46.9	40-200		4/15/25 11:35
13C2-6:2FTS	47.7	40-200		4/15/25 11:35
13C2-8:2FTS	48.7	40-300		4/15/25 11:35
13C8-PFOSA	59.2	40-130		4/15/25 11:35
D3-NMeFOSA	48.5	10-130		4/15/25 11:35
D5-NEtFOSA	45.9	10-130		4/15/25 11:35
D3-NMeFOSAA	46.6	40-170		4/15/25 11:35
D5-NEtFOSAA	44.3	25-135		4/15/25 11:35
D7-NMeFOSE	41.7	10-130		4/15/25 11:35
D9-NEtFOSE	39.8	10-130		4/15/25 11:35
13C3-HFPO-DA	76.8	40-130		4/15/25 11:35

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-13S | Sampled: 4/1/2025 12:15

Sample ID: 25D0211-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorohexanoic acid (PFHxA)	1.8	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorooctanoic acid (PFOA)	2.7	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorononanoic acid (PFNA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorodecanoic acid (PFDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorododecanoic acid (PFDoA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorobutanesulfonic acid (PFBS)	1.5	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorooctanesulfonic acid (PFOS)	3.0	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-MeFOSAA (NMeFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-EtFOSAA (NEtFOSAA)	ND	1.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	15	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
9Cl-PF3ONS (F53B Minor)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
11Cl-PF3OUdS (F53B Major)	ND	6.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	38	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 11:44	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	38	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: GM-13S | Sampled: 4/1/2025 12:15

Sample ID: 25D0211-10

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	4/14/25	4/15/25 11:44	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	72.0	5-130		4/15/25 11:44
13C5-PFPeA	67.6	40-130		4/15/25 11:44
13C5-PFHxA	70.8	40-130		4/15/25 11:44
13C4-PFHpA	69.9	40-130		4/15/25 11:44
13C8-PFOA	70.5	40-130		4/15/25 11:44
13C9-PFNA	68.6	40-130		4/15/25 11:44
13C6-PFDA	67.9	40-130		4/15/25 11:44
13C7-PFUnA	63.2	30-130		4/15/25 11:44
13C2-PFDoA	57.8	10-130		4/15/25 11:44
13C2-PFTeDA	53.4	10-130		4/15/25 11:44
13C3-PFBS	68.4	40-135		4/15/25 11:44
13C3-PFHxS	73.8	40-130		4/15/25 11:44
13C8-PFOS	65.3	40-130		4/15/25 11:44
13C2-4:2FTS	77.0	40-200		4/15/25 11:44
13C2-6:2FTS	62.6	40-200		4/15/25 11:44
13C2-8:2FTS	53.9	40-300		4/15/25 11:44
13C8-PFOSA	50.5	40-130		4/15/25 11:44
D3-NMeFOSA	44.9	10-130		4/15/25 11:44
D5-NEtFOSA	43.2	10-130		4/15/25 11:44
D3-NMeFOSAA	61.3	40-170		4/15/25 11:44
D5-NEtFOSAA	55.1	25-135		4/15/25 11:44
D7-NMeFOSE	41.8	10-130		4/15/25 11:44
D9-NEtFOSE	40.3	10-130		4/15/25 11:44
13C3-HFPO-DA	80.5	40-130		4/15/25 11:44

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: W7S | Sampled: 4/1/2025 12:15

Sample ID: 25D0211-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoropentanoic acid (PFPeA)	4.0	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorohexanoic acid (PFHxA)	2.5	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorooctanoic acid (PFOA)	2.1	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorobutanesulfonic acid (PFBS)	3.3	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorohexanesulfonic acid (PFHxS)	2.4	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1	PF-23	EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.2	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 11:53	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: W7S | Sampled: 4/1/2025 12:15

Sample ID: 25D0211-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/14/25	4/15/25 11:53	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	90.9	5-130		4/15/25 11:53
13C5-PFPeA	87.7	40-130		4/15/25 11:53
13C5-PFHxA	91.2	40-130		4/15/25 11:53
13C4-PFHpA	86.0	40-130		4/15/25 11:53
13C8-PFOA	98.4	40-130		4/15/25 11:53
13C9-PFNA	91.2	40-130		4/15/25 11:53
13C6-PFDA	88.1	40-130		4/15/25 11:53
13C7-PFUnA	84.1	30-130		4/15/25 11:53
13C2-PFDoA	71.0	10-130		4/15/25 11:53
13C2-PFTeDA	68.4	10-130		4/15/25 11:53
13C3-PFBS	85.0	40-135		4/15/25 11:53
13C3-PFHxS	95.2	40-130		4/15/25 11:53
13C8-PFOS	85.1	40-130		4/15/25 11:53
13C2-4:2FTS	109	40-200		4/15/25 11:53
13C2-6:2FTS	80.3	40-200		4/15/25 11:53
13C2-8:2FTS	65.2	40-300		4/15/25 11:53
13C8-PFOSA	66.9	40-130		4/15/25 11:53
D3-NMeFOSA	59.4	10-130		4/15/25 11:53
D5-NEtFOSA	57.8	10-130		4/15/25 11:53
D3-NMeFOSAA	80.0	40-170		4/15/25 11:53
D5-NEtFOSAA	78.1	25-135		4/15/25 11:53
D7-NMeFOSE	58.6	10-130		4/15/25 11:53
D9-NEtFOSE	56.0	10-130		4/15/25 11:53
13C3-HFPO-DA	99.1	40-130		4/15/25 11:53

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: W7S-DUP | Sampled: 4/1/2025 12:20

Sample ID: 25D0211-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoropentanoic acid (PFPeA)	4.3	3.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorohexanoic acid (PFHxA)	2.7	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorooctanoic acid (PFOA)	2.2	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorobutanesulfonic acid (PFBS)	3.3	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorohexanesulfonic acid (PFHxS)	2.9	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorooctanesulfonic acid (PFOS)	1.8	1.7	ng/L	1	PF-23	EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
9Cl-PF3ONS (F53B Minor)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
11Cl-PF3OUdS (F53B Major)	ND	6.7	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1	L-03	EPA 1633	4/14/25	4/15/25 12:02	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

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Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0211

Date Received: 4/2/2025

Field Sample #: W7S-DUP | Sampled: 4/1/2025 12:20

Sample ID: 25D0211-12

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.4	ng/L	1		EPA 1633	4/14/25	4/15/25 12:02	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	87.1	5-130		4/15/25 12:02
13C5-PFPeA	85.0	40-130		4/15/25 12:02
13C5-PFHxA	87.5	40-130		4/15/25 12:02
13C4-PFHpA	81.6	40-130		4/15/25 12:02
13C8-PFOA	92.9	40-130		4/15/25 12:02
13C9-PFNA	83.8	40-130		4/15/25 12:02
13C6-PFDA	78.2	40-130		4/15/25 12:02
13C7-PFUnA	73.2	30-130		4/15/25 12:02
13C2-PFDoA	63.9	10-130		4/15/25 12:02
13C2-PFTeDA	58.1	10-130		4/15/25 12:02
13C3-PFBS	82.8	40-135		4/15/25 12:02
13C3-PFHxS	87.8	40-130		4/15/25 12:02
13C8-PFOS	80.7	40-130		4/15/25 12:02
13C2-4:2FTS	112	40-200		4/15/25 12:02
13C2-6:2FTS	83.7	40-200		4/15/25 12:02
13C2-8:2FTS	69.4	40-300		4/15/25 12:02
13C8-PFOSA	61.9	40-130		4/15/25 12:02
D3-NMeFOSA	54.8	10-130		4/15/25 12:02
D5-NEtFOSA	52.7	10-130		4/15/25 12:02
D3-NMeFOSAA	77.2	40-170		4/15/25 12:02
D5-NEtFOSAA	73.5	25-135		4/15/25 12:02
D7-NMeFOSE	49.6	10-130		4/15/25 12:02
D9-NEtFOSE	47.8	10-130		4/15/25 12:02
13C3-HFPO-DA	93.6	40-130		4/15/25 12:02

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Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0211-01RE1 [BMW-8]	B402935	487	4.00	04/14/25
25D0211-02RE1 [BMW-9]	B402935	539	4.00	04/14/25
25D0211-03RE1 [BMW-1]	B402935	504	4.00	04/14/25
25D0211-04RE1 [BMW-7]	B402935	534	4.00	04/14/25
25D0211-05RE1 [BMW-4]	B402935	100	4.00	04/14/25
25D0211-06RE1 [BMW-4 DUP]	B402935	100	4.00	04/14/25
25D0211-07RE1 [BMW-6]	B402935	526	4.00	04/14/25
25D0211-08RE1 [GM-14S]	B402935	480	4.00	04/14/25
25D0211-09RE1 [GM-14D]	B402935	507	4.00	04/14/25
25D0211-10RE1 [GM-13S]	B402935	523	4.00	04/14/25
25D0211-11RE1 [W7S]	B402935	489	4.00	04/14/25
25D0211-12RE1 [W7S-DUP]	B402935	476	4.00	04/14/25

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							L-03
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*66.5*		ng/L	78.94		84.2	5-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Surrogate: 13C5-PFPeA	*33.5*		ng/L	39.47		84.8	40-130			
Surrogate: 13C5-PFHxA	*16.9*		ng/L	19.73		85.9	40-130			
Surrogate: 13C4-PFHpA	*15.8*		ng/L	19.73		80.1	40-130			
Surrogate: 13C8-PFOA	*18.0*		ng/L	19.73		91.3	40-130			
Surrogate: 13C9-PFNA	*8.23*		ng/L	9.867		83.4	40-130			
Surrogate: 13C6-PFDA	*8.37*		ng/L	9.867		84.9	40-130			
Surrogate: 13C7-PFUnA	*8.42*		ng/L	9.867		85.3	30-130			
Surrogate: 13C2-PFDoA	*7.24*		ng/L	9.867		73.4	10-130			
Surrogate: 13C2-PFTeDA	*6.41*		ng/L	9.867		65.0	10-130			
Surrogate: 13C3-PFBS	*15.3*		ng/L	19.73		77.7	40-135			
Surrogate: 13C3-PFHxS	*17.0*		ng/L	19.73		86.2	40-130			
Surrogate: 13C8-PFOS	*16.9*		ng/L	19.73		85.7	40-130			
Surrogate: 13C2-4:2FTS	*35.6*		ng/L	39.47		90.3	40-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	39.47		94.6	40-200			
Surrogate: 13C2-8:2FTS	*30.4*		ng/L	39.47		77.1	40-300			
Surrogate: 13C8-PFOSA	*13.4*		ng/L	19.73		67.8	40-130			
Surrogate: D3-NMeFOSA	*12.7*		ng/L	19.73		64.2	10-130			
Surrogate: D5-NEtFOSA	*12.0*		ng/L	19.73		61.1	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.47		82.6	40-170			
Surrogate: D5-NEtFOSAA	*31.0*		ng/L	39.47		78.5	25-135			
Surrogate: D7-NMeFOSE	*111*		ng/L	197.3		56.2	10-130			
Surrogate: D9-NEtFOSE	*105*		ng/L	197.3		53.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.3*		ng/L	78.94		95.4	40-130			
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	75.8	6.3	ng/L	79.00		95.9	70-140			
Perfluoropentanoic acid (PFPeA)	39.3	3.2	ng/L	39.50		99.4	65-135			
Perfluorohexanoic acid (PFHxA)	19.3	1.6	ng/L	19.75		97.7	70-145			
Perfluoroheptanoic acid (PFHpA)	18.9	1.6	ng/L	19.75		95.5	70-150			
Perfluorooctanoic acid (PFOA)	17.7	1.6	ng/L	19.75		89.6	70-150			
Perfluorononanoic acid (PFNA)	19.4	1.6	ng/L	19.75		98.4	70-150			
Perfluorodecanoic acid (PFDA)	19.5	1.6	ng/L	19.75		98.8	70-140			
Perfluoroundecanoic acid (PFUnA)	19.8	1.6	ng/L	19.75		100	70-145			
Perfluorododecanoic acid (PFDoA)	19.6	1.6	ng/L	19.75		99.2	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.2	1.6	ng/L	19.75		97.4	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.4	1.6	ng/L	19.75		103	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.9	1.6	ng/L	17.54		102	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.4	1.6	ng/L	18.56		93.7	65-140			
Perfluorohexanesulfonic acid (PFHxS)	15.8	1.6	ng/L	18.01		87.6	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	19.5	1.6	ng/L	18.80		104	70-150			
Perfluorooctanesulfonic acid (PFOS)	17.8	1.6	ng/L	18.33		97.1	55-150			
Perfluorononanesulfonic acid (PFNS)	18.9	1.6	ng/L	18.96		99.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	17.8	1.6	ng/L	19.04		93.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	15.6	1.6	ng/L	19.12		81.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.5	6.3	ng/L	74.02		107	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	78.2	6.3	ng/L	75.13		104	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	83.2	6.3	ng/L	75.84		110	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.1	1.6	ng/L	19.75		91.7	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.1	1.6	ng/L	19.75		102	60-150			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.0	1.6	ng/L	19.75		106	65-145			
N-MeFOSAA (NMeFOSAA)	17.8	1.6	ng/L	19.75		90.2	50-140			
N-EtFOSAA (NEtFOSAA)	18.3	1.6	ng/L	19.75		92.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	197	16	ng/L	197.5		99.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	201	16	ng/L	197.5		102	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	80.0	6.3	ng/L	79.00		101	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	79.4	6.3	ng/L	74.65		106	65-145			
9Cl-PF3ONS (F53B Minor)	74.3	6.3	ng/L	73.70		101	70-155			
11Cl-PF3OUdS (F53B Major)	68.0	6.3	ng/L	73.47		92.6	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	73.3	7.9	ng/L	98.75		74.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	379	39	ng/L	493.7		76.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	405	39	ng/L	493.7		82.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	37.2	3.2	ng/L	35.23		106	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.1	3.2	ng/L	39.50		88.8	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	39.3	3.2	ng/L	39.50		99.5	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.8	3.2	ng/L	39.50		113	50-150			
Surrogate: 13C4-PFBA	*62.3*		ng/L	79.00		78.9	5-130			
Surrogate: 13C5-PFPeA	*30.6*		ng/L	39.50		77.5	40-130			
Surrogate: 13C5-PFHxA	*15.4*		ng/L	19.75		78.0	40-130			
Surrogate: 13C4-PFHpA	*14.3*		ng/L	19.75		72.2	40-130			
Surrogate: 13C8-PFOA	*16.6*		ng/L	19.75		84.0	40-130			
Surrogate: 13C9-PFNA	*7.74*		ng/L	9.875		78.4	40-130			
Surrogate: 13C6-PFDA	*7.73*		ng/L	9.875		78.2	40-130			
Surrogate: 13C7-PFUnA	*7.69*		ng/L	9.875		77.9	30-130			
Surrogate: 13C2-PFDoA	*6.93*		ng/L	9.875		70.2	10-130			
Surrogate: 13C2-PFTeDA	*6.22*		ng/L	9.875		63.0	10-130			
Surrogate: 13C3-PFBS	*14.1*		ng/L	19.75		71.4	40-135			
Surrogate: 13C3-PFHxS	*16.0*		ng/L	19.75		81.2	40-130			
Surrogate: 13C8-PFOS	*15.1*		ng/L	19.75		76.3	40-130			
Surrogate: 13C2-4:2FTS	*32.5*		ng/L	39.50		82.3	40-200			
Surrogate: 13C2-6:2FTS	*34.6*		ng/L	39.50		87.6	40-200			
Surrogate: 13C2-8:2FTS	*29.6*		ng/L	39.50		74.8	40-300			
Surrogate: 13C8-PFOSA	*12.5*		ng/L	19.75		63.4	40-130			
Surrogate: D3-NMeFOSA	*11.2*		ng/L	19.75		56.7	10-130			
Surrogate: D5-NEtFOSA	*10.8*		ng/L	19.75		54.4	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.50		82.4	40-170			
Surrogate: D5-NEtFOSAA	*29.8*		ng/L	39.50		75.5	25-135			
Surrogate: D7-NMeFOSE	*107*		ng/L	197.5		54.1	10-130			
Surrogate: D9-NEtFOSE	*103*		ng/L	197.5		52.1	10-130			
Surrogate: 13C3-HFPO-DA	*66.2*		ng/L	79.00		83.8	40-130			
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	11.4	6.3	ng/L	12.63		90.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.54	3.2	ng/L	6.316		87.8	65-135			

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633											
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25							
Perfluorohexanoic acid (PFHxA)	2.54	1.6	ng/L	3.158		80.5		70-145			
Perfluoroheptanoic acid (PFHpA)	2.56	1.6	ng/L	3.158		81.1		70-150			
Perfluorooctanoic acid (PFOA)	3.06	1.6	ng/L	3.158		96.8		70-150			
Perfluorononanoic acid (PFNA)	2.70	1.6	ng/L	3.158		85.3		70-150			
Perfluorodecanoic acid (PFDA)	2.87	1.6	ng/L	3.158		91.0		70-140			
Perfluoroundecanoic acid (PFUnA)	2.77	1.6	ng/L	3.158		87.6		70-145			
Perfluorododecanoic acid (PFDoA)	2.83	1.6	ng/L	3.158		89.5		70-140			
Perfluorotridecanoic acid (PFTrDA)	2.72	1.6	ng/L	3.158		86.0		65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.89	1.6	ng/L	3.158		91.5		60-140			
Perfluorobutanesulfonic acid (PFBS)	2.34	1.6	ng/L	2.804		83.6		60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.18	1.6	ng/L	2.969		73.3		65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.26	1.6	ng/L	2.880		78.5		65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.57	1.6	ng/L	3.007		85.4		70-150			
Perfluorooctanesulfonic acid (PFOS)	2.51	1.6	ng/L	2.931		85.6		55-150			
Perfluorononanesulfonic acid (PFNS)	2.39	1.6	ng/L	3.032		79.0		65-145			
Perfluorodecanesulfonic acid (PFDS)	2.48	1.6	ng/L	3.044		81.3		60-145			
Perfluorododecanesulfonic acid (PFDoS)	1.85	1.6	ng/L	3.057		60.5		50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.88	6.3	ng/L	11.84		83.5		70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.2	6.3	ng/L	12.01		93.1		65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.8	6.3	ng/L	12.13		89.1		60-150			
Perfluorooctanesulfonamide (PFOSA)	2.63	1.6	ng/L	3.158		83.4		70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.87	1.6	ng/L	3.158		91.0		60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.99	1.6	ng/L	3.158		94.5		65-145			
N-MeFOSAA (NMeFOSAA)	2.82	1.6	ng/L	3.158		89.3		50-140			
N-EtFOSAA (NEtFOSAA)	2.52	1.6	ng/L	3.158		79.9		70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	27.1	16	ng/L	31.58		85.9		70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	27.5	16	ng/L	31.58		86.9		70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.6	6.3	ng/L	12.63		84.0		70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.5	6.3	ng/L	11.94		95.9		65-145			
9Cl-PF3ONS (F53B Minor)	10.1	6.3	ng/L	11.79		85.8		70-155			
11Cl-PF3OUdS (F53B Major)	9.25	6.3	ng/L	11.80		78.4		55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	10.3	7.9	ng/L	15.79		65.5		65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	51.0	39	ng/L	78.95		**64.6**	*	70-135			L-03
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	55.4	39	ng/L	78.95		70.1		50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.21	3.2	ng/L	5.634		92.5		70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.96	3.2	ng/L	6.316		78.5		55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.41	3.2	ng/L	6.316		85.6		60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.25	3.2	ng/L	6.316		99.0		50-150			
Surrogate: 13C4-PFBA	*69.3*		ng/L	78.95		87.8		5-130			
Surrogate: 13C5-PFPeA	*36.1*		ng/L	39.48		91.5		40-130			
Surrogate: 13C5-PFHxA	*18.1*		ng/L	19.74		91.8		40-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Surrogate: 13C4-PFHpA	*16.8*		ng/L	19.74		85.1	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.74		94.9	40-130			
Surrogate: 13C9-PFNA	*8.62*		ng/L	9.869		87.4	40-130			
Surrogate: 13C6-PFDA	*8.03*		ng/L	9.869		81.3	40-130			
Surrogate: 13C7-PFUnA	*7.77*		ng/L	9.869		78.8	30-130			
Surrogate: 13C2-PFDoA	*7.21*		ng/L	9.869		73.1	10-130			
Surrogate: 13C2-PFTeDA	*6.32*		ng/L	9.869		64.0	10-130			
Surrogate: 13C3-PFBS	*15.7*		ng/L	19.74		79.7	40-135			
Surrogate: 13C3-PFHxS	*17.3*		ng/L	19.74		87.8	40-130			
Surrogate: 13C8-PFOS	*16.7*		ng/L	19.74		84.4	40-130			
Surrogate: 13C2-4:2FTS	*36.9*		ng/L	39.48		93.4	40-200			
Surrogate: 13C2-6:2FTS	*36.1*		ng/L	39.48		91.6	40-200			
Surrogate: 13C2-8:2FTS	*33.0*		ng/L	39.48		83.5	40-300			
Surrogate: 13C8-PFOSA	*13.2*		ng/L	19.74		67.0	40-130			
Surrogate: D3-NMeFOSA	*13.3*		ng/L	19.74		67.2	10-130			
Surrogate: D5-NEtFOSA	*12.3*		ng/L	19.74		62.1	10-130			
Surrogate: D3-NMeFOSAA	*33.7*		ng/L	39.48		85.3	40-170			
Surrogate: D5-NEtFOSAA	*32.4*		ng/L	39.48		82.1	25-135			
Surrogate: D7-NMeFOSE	*115*		ng/L	197.4		58.2	10-130			
Surrogate: D9-NEtFOSE	*111*		ng/L	197.4		56.4	10-130			
Surrogate: 13C3-HFPO-DA	*80.1*		ng/L	78.95		102	40-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D-01	Sample extracted/prepared at a dilution due to sample matrix.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Water	
Perfluorobutanoic acid (PFBA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanoic acid (PFNA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	CT,NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	CT,NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	CT,NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	CT,NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2026
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VA	Commonwealth of Virginia	460217	12/14/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025
LA	State of Louisiana Dept. of Env. Quality Office of Env. Services	05130	06/30/2025

25D0211 RF

Pace

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Page 1 of 2

Company Name: Michael Baker Int'l
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 5131.40
Invoice Recipient: MBI
Sampled By: B. Mihalyo / A. Lavy

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakerintl.com
Fax To #:

Dissolved Metal Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	X PFAAs EPA 1633
1	BMW-8	3/31/25	1520	G	GW				2			X
2	BMW-9		1635									
3	BMW-1		1755									
4	BMW-7		1800									
5	BMW-4		1855									
6	BMW-4 Dup		1900									
7	BMW-6		1900									
8	GM-14S	4/1/25	1005									
9	GM-14D		1030									
10	GM-13S		1215									

[2] Preservation Code

Contact Lab Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
BL Olm	4/1/25 1310
Received by: (signature) Remeimark / Pace	4/1/25 1810
Relinquished by: (signature) Remeimark / Pace	4/1/25 1515
Received by: (signature) Buffalo S/C	4/1/25 1515
Relinquished by: (signature) Russell B Bailey	4-1-25 16:21
Received by: (signature)	4/1/25 1:30
Relinquished by: (signature)	4/2 0:1:00
Received by: (signature) 2.0	4/2/25 200

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

25D0211 RF

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Doc # 381 Rev 2_06262019

Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 2 of 2

Company Name: Michael Baker Intl
Address: 100 Airside Dr 15108
Phone: 412-269-6300
Project Name: Saegertown PFAS
Project Location: Saegertown, PA
Project Number: 189432
Project Manager: Chris Kupfer
Con-Test Quote Name/Number: 513140
Invoice Recipient: MBI
Sampled By: BMikula / A. Lavy

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: Ckupfer@mbakerintl.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAAs EPA 1633
11	W7S	4/1/25	1215	G	GW				2			X
12	W7S Dup	"	1220	G	GW				2			X

[2] Preservation Code

Lab Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
[signature]	4/1/25 1310
Received by: (signature)	Date/Time:
Romeo Mackface	4/1/25 1310
Relinquished by: (signature)	Date/Time:
Romeo Mackface	4/1/25 1515
Received by: (signature)	Date/Time:
Buffalo S/C	4/1/25 1515
Relinquished by: (signature)	Date/Time:
Russell B Bixby	4-1-25 16:21
Received by: (signature)	Date/Time:
[signature]	4/1 23:36
Relinquished by: (signature)	Date/Time:
[signature]	4/2 08:00
Received by: (signature)	Date/Time:
[signature] 2.0	4/2/25 0800

Client Comments:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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Pace Analytical Services	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client: Michael Baker International

Project: Saegertown PFAS Site

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: Saegertown, PA

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 4/2/25 0200

Back-Sheet By / Date / Time: Mam 4/3/25 0025

Temperature Method: Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 2.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Sample	Soils Jars (Circle Amb/Clear)				Ambers					Plastics												VOA Vials						Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
	1 Liter				1 Liter			250mL		100mL	1 Liter		500mL		250mL																		
1													2																				
2													—																				
3																																	
4																																	
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19																																	
20																																	

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 18, 2025

Christopher Kupfer
Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108

Project Location: Saegertown, PA
Client Job Number:
Project Number: 189432
Laboratory Work Order Number: 25D0377

Enclosed are results of analyses for samples as received by the laboratory on April 4, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Faust
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Michael Baker International
100 Airside Drive, Airside Business Park
Moon Township, PA 15108
ATTN: Christopher Kupfer

REPORT DATE: 4/18/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 189432

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25D0377

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Saegertown, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
BMW-2	25D0377-01	Ground Water		EPA 1633	
BMW-3	25D0377-02	Ground Water		EPA 1633	
BMW-10	25D0377-03	Ground Water		EPA 1633	
FB-0425	25D0377-04	Field Blank		EPA 1633	
PW-1	25D0377-05	Ground Water		EPA 1633	
PW-2	25D0377-06	Ground Water		EPA 1633	
PW-6	25D0377-07	Ground Water		EPA 1633	
PW-6 DUP	25D0377-08	Ground Water		EPA 1633	
PW-7	25D0377-09	Ground Water		EPA 1633	
EB-02-0425	25D0377-10	Equipment Blank Water		EPA 1633	
IDW-AQ-0425	25D0377-11	Ground Water		EPA 1633	
IDW-SOIL-0425	25D0377-12	Soil		EPA 1633	
				SM 2540G	

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

EPA 1633

Qualifications:

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-4:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-6:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-8:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFDoA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFHxA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C2-PFTeDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-HFPO-DA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFBA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFBS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C3-PFHxS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFBA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFHpA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFOA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C4-PFOS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFHxA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFNA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C5-PFPeA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C6-PFDA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C7-PFUnA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C8-PFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

13C9-PFNA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

18O2-PFHxS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTC
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTC
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

9Cl-PF3ONS (F53B Minor)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D3-NMeFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D3-NMeFOSAA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D5-NEtFOSA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D5-NEtFOSAA
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D7-NMeFOSE
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

D9-NEtFOSE
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Hexafluoropropylene oxide dimer acid (HFPO-DA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-EtFOSAA (NEtFOSAA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-ethyl perfluorooctanesulfonamide (NEtFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-ethylperfluorooctanesulfonamidoethanol (NEtFO
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-MeFOSAA (NMeFOSAA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-methyl perfluoroocatnesulfonamide (NMeFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

N-methylperfluorooctanesulfonamidoethanol(NMeF
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro-3-methoxypropanoic acid (PFMPA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoro-4-methoxybutanoic acid (PFMBA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorobutanesulfonic acid (PFBS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorobutanoic acid (PFBA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorodecanesulfonic acid (PFDS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorodecanoic acid (PFDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorododecanesulfonic acid (PFDoS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorododecanoic acid (PFDoA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

Perfluoroheptanesulfonic acid (PFHpS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoroheptanoic acid (PFHpA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorohexanesulfonic acid (PFHxS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorohexanoic acid (PFHxA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorononanesulfonic acid (PFNS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorononanoic acid (PFNA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanesulfonamide (PFOSA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanesulfonic acid (PFOS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorooctanoic acid (PFOA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoropentanesulfonic acid (PFPeS)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoropentanoic acid (PFPeA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorotetradecanoic acid (PFTeDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluorotridecanoic acid (PFTrDA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

Perfluoroundecanoic acid (PFUnA)
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3]

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FT
25D0377-01RE1[BMW-2], 25D0377-02RE1[BMW-3], B402935-BLK1, B402935-MRL1

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-2 | Sampled: 4/2/2025 13:15

Sample ID: 25D0377-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoropentanoic acid (PFPeA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorohexanoic acid (PFHxA)	48	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroheptanoic acid (PFHpA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanoic acid (PFOA)	44	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorononanoic acid (PFNA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorodecanoic acid (PFDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroundecanoic acid (PFUnA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorododecanoic acid (PFDoA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorotridecanoic acid (PFTrDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorobutanesulfonic acid (PFBS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoropentanesulfonic acid (PFPeS)	58	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorohexanesulfonic acid (PFHxS)	1200	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoroheptanesulfonic acid (PFHpS)	40	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanesulfonic acid (PFOS)	6900	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorononanesulfonic acid (PFNS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorodecanesulfonic acid (PFDS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluorooctanesulfonamide (PFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-MeFOSAA (NMeFOSAA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-EtFOSAA (NEtFOSAA)	ND	32	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
9Cl-PF3ONS (F53B Minor)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
11Cl-PF3OUdS (F53B Major)	ND	130	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	800	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 12:12	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	800	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-2 | Sampled: 4/2/2025 13:15

Sample ID: 25D0377-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	64	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:12	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	72.8	5-130	D-01	4/15/25 12:12
13C5-PFPeA	72.5	40-130	D-01	4/15/25 12:12
13C5-PFHxA	73.1	40-130	D-01	4/15/25 12:12
13C4-PFHpA	68.6	40-130	D-01	4/15/25 12:12
13C8-PFOA	80.1	40-130	D-01	4/15/25 12:12
13C9-PFNA	78.3	40-130	D-01	4/15/25 12:12
13C6-PFDA	73.2	40-130	D-01	4/15/25 12:12
13C7-PFUnA	75.4	30-130	D-01	4/15/25 12:12
13C2-PFDoA	66.7	10-130	D-01	4/15/25 12:12
13C2-PFTeDA	61.8	10-130	D-01	4/15/25 12:12
13C3-PFBS	65.9	40-135	D-01	4/15/25 12:12
13C3-PFHxS	72.6	40-130	D-01	4/15/25 12:12
13C8-PFOS	72.3	40-130	D-01	4/15/25 12:12
13C2-4:2FTS	68.6	40-200	D-01	4/15/25 12:12
13C2-6:2FTS	71.7	40-200	D-01	4/15/25 12:12
13C2-8:2FTS	68.3	40-300	D-01	4/15/25 12:12
13C8-PFOSA	67.1	40-130	D-01	4/15/25 12:12
D3-NMeFOSA	60.6	10-130	D-01	4/15/25 12:12
D5-NEtFOSA	61.3	10-130	D-01	4/15/25 12:12
D3-NMeFOSAA	73.2	40-170	D-01	4/15/25 12:12
D5-NEtFOSAA	70.6	25-135	D-01	4/15/25 12:12
D7-NMeFOSE	56.1	10-130	D-01	4/15/25 12:12
D9-NEtFOSE	53.7	10-130	D-01	4/15/25 12:12
13C3-HFPO-DA	79.0	40-130	D-01	4/15/25 12:12

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-3 | Sampled: 4/2/2025 16:15

Sample ID: 25D0377-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoropentanoic acid (PFPeA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorohexanoic acid (PFHxA)	420	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroheptanoic acid (PFHpA)	200	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanoic acid (PFOA)	300	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorononanoic acid (PFNA)	260	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorodecanoic acid (PFDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorododecanoic acid (PFDoA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorobutanesulfonic acid (PFBS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoropentanesulfonic acid (PFPeS)	200	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorohexanesulfonic acid (PFHxS)	4600	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoroheptanesulfonic acid (PFHpS)	210	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanesulfonic acid (PFOS)	36000	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorononanesulfonic acid (PFNS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorodecanesulfonic acid (PFDS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluorooctanesulfonamide (PFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-MeFOSAA (NMeFOSAA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-EtFOSAA (NEtFOSAA)	ND	160	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	1600	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1600	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
9Cl-PF3ONS (F53B Minor)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
11Cl-PF3OUdS (F53B Major)	ND	640	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	800	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4000	ng/L	1	D-01, L-03	EPA 1633	4/14/25	4/15/25 12:21	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4000	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-3 | Sampled: 4/2/2025 16:15

Sample ID: 25D0377-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	320	ng/L	1	D-01	EPA 1633	4/14/25	4/15/25 12:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	80.9	5-130	D-01	4/15/25 12:21
13C5-PFPeA	78.2	40-130	D-01	4/15/25 12:21
13C5-PFHxA	78.2	40-130	D-01	4/15/25 12:21
13C4-PFHpA	73.8	40-130	D-01	4/15/25 12:21
13C8-PFOA	86.9	40-130	D-01	4/15/25 12:21
13C9-PFNA	80.3	40-130	D-01	4/15/25 12:21
13C6-PFDA	84.0	40-130	D-01	4/15/25 12:21
13C7-PFUnA	82.2	30-130	D-01	4/15/25 12:21
13C2-PFDoA	73.2	10-130	D-01	4/15/25 12:21
13C2-PFTeDA	66.8	10-130	D-01	4/15/25 12:21
13C3-PFBS	73.0	40-135	D-01	4/15/25 12:21
13C3-PFHxS	81.5	40-130	D-01	4/15/25 12:21
13C8-PFOS	79.3	40-130	D-01	4/15/25 12:21
13C2-4:2FTS	62.1	40-200	D-01	4/15/25 12:21
13C2-6:2FTS	69.1	40-200	D-01	4/15/25 12:21
13C2-8:2FTS	74.9	40-300	D-01	4/15/25 12:21
13C8-PFOSA	66.8	40-130	D-01	4/15/25 12:21
D3-NMeFOSA	65.0	10-130	D-01	4/15/25 12:21
D5-NEtFOSA	62.0	10-130	D-01	4/15/25 12:21
D3-NMeFOSAA	82.6	40-170	D-01	4/15/25 12:21
D5-NEtFOSAA	81.8	25-135	D-01	4/15/25 12:21
D7-NMeFOSE	57.4	10-130	D-01	4/15/25 12:21
D9-NEtFOSE	54.4	10-130	D-01	4/15/25 12:21
13C3-HFPO-DA	89.6	40-130	D-01	4/15/25 12:21

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-10 | Sampled: 4/2/2025 16:20

Sample ID: 25D0377-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorohexanesulfonic acid (PFHxS)	5.5	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanesulfonic acid (PFOS)	7.4	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: BMW-10 | Sampled: 4/2/2025 16:20

Sample ID: 25D0377-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/17/25	4/18/25 12:32	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	97.1	5-130		4/18/25 12:32
13C5-PFPeA	94.6	40-130		4/18/25 12:32
13C5-PFHxA	101	40-130		4/18/25 12:32
13C4-PFHpA	103	40-130		4/18/25 12:32
13C8-PFOA	94.0	40-130		4/18/25 12:32
13C9-PFNA	95.8	40-130		4/18/25 12:32
13C6-PFDA	96.8	40-130		4/18/25 12:32
13C7-PFUnA	95.7	30-130		4/18/25 12:32
13C2-PFDoA	90.3	10-130		4/18/25 12:32
13C2-PFTeDA	83.3	10-130		4/18/25 12:32
13C3-PFBS	108	40-135		4/18/25 12:32
13C3-PFHxS	104	40-130		4/18/25 12:32
13C8-PFOS	94.9	40-130		4/18/25 12:32
13C2-4:2FTS	116	40-200		4/18/25 12:32
13C2-6:2FTS	93.6	40-200		4/18/25 12:32
13C2-8:2FTS	82.2	40-300		4/18/25 12:32
13C8-PFOSA	87.8	40-130		4/18/25 12:32
D3-NMeFOSA	68.2	10-130		4/18/25 12:32
D5-NEtFOSA	67.4	10-130		4/18/25 12:32
D3-NMeFOSAA	88.9	40-170		4/18/25 12:32
D5-NEtFOSAA	85.5	25-135		4/18/25 12:32
D7-NMeFOSE	73.1	10-130		4/18/25 12:32
D9-NEtFOSE	69.9	10-130		4/18/25 12:32
13C3-HFPO-DA	99.4	40-130		4/18/25 12:32

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: FB-0425 | Sampled: 4/2/2025 16:50

Sample ID: 25D0377-04

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
9Cl-PF3ONS (F53B Minor)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
11Cl-PF3OUdS (F53B Major)	ND	6.5	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: FB-0425 | Sampled: 4/2/2025 16:50

Sample ID: 25D0377-04

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:39	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	67.8	5-130		4/11/25 10:39
13C5-PFPeA	68.4	40-130		4/11/25 10:39
13C5-PFHxA	67.5	40-130		4/11/25 10:39
13C4-PFHpA	66.0	40-130		4/11/25 10:39
13C8-PFOA	68.2	40-130		4/11/25 10:39
13C9-PFNA	69.2	40-130		4/11/25 10:39
13C6-PFDA	71.1	40-130		4/11/25 10:39
13C7-PFUnA	76.3	30-130		4/11/25 10:39
13C2-PFDoA	63.1	10-130		4/11/25 10:39
13C2-PFTeDA	58.8	10-130		4/11/25 10:39
13C3-PFBS	66.7	40-135		4/11/25 10:39
13C3-PFHxS	70.3	40-130		4/11/25 10:39
13C8-PFOS	63.0	40-130		4/11/25 10:39
13C2-4:2FTS	77.7	40-200		4/11/25 10:39
13C2-6:2FTS	78.4	40-200		4/11/25 10:39
13C2-8:2FTS	72.1	40-300		4/11/25 10:39
13C8-PFOSA	60.6	40-130		4/11/25 10:39
D3-NMeFOSA	55.6	10-130		4/11/25 10:39
D5-NEtFOSA	53.0	10-130		4/11/25 10:39
D3-NMeFOSAA	54.4	40-170		4/11/25 10:39
D5-NEtFOSAA	54.6	25-135		4/11/25 10:39
D7-NMeFOSE	55.6	10-130		4/11/25 10:39
D9-NEtFOSE	54.3	10-130		4/11/25 10:39
13C3-HFPO-DA	68.5	40-130		4/11/25 10:39

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-1 | Sampled: 4/3/2025 09:40

Sample ID: 25D0377-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoropentanoic acid (PFPeA)	3.2	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorohexanoic acid (PFHxA)	2.1	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanoic acid (PFOA)	3.2	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorobutanesulfonic acid (PFBS)	1.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
9Cl-PF3ONS (F53B Minor)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
11Cl-PF3OUdS (F53B Major)	ND	6.2	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-1 | Sampled: 4/3/2025 09:40

Sample ID: 25D0377-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L	1		EPA 1633	4/10/25	4/11/25 10:48	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	71.5	5-130		4/11/25 10:48
13C5-PFPeA	71.7	40-130		4/11/25 10:48
13C5-PFHxA	69.4	40-130		4/11/25 10:48
13C4-PFHpA	69.3	40-130		4/11/25 10:48
13C8-PFOA	68.6	40-130		4/11/25 10:48
13C9-PFNA	68.4	40-130		4/11/25 10:48
13C6-PFDA	67.8	40-130		4/11/25 10:48
13C7-PFUnA	70.1	30-130		4/11/25 10:48
13C2-PFDoA	61.0	10-130		4/11/25 10:48
13C2-PFTeDA	61.4	10-130		4/11/25 10:48
13C3-PFBS	64.9	40-135		4/11/25 10:48
13C3-PFHxS	68.1	40-130		4/11/25 10:48
13C8-PFOS	64.1	40-130		4/11/25 10:48
13C2-4:2FTS	67.1	40-200		4/11/25 10:48
13C2-6:2FTS	72.6	40-200		4/11/25 10:48
13C2-8:2FTS	67.5	40-300		4/11/25 10:48
13C8-PFOSA	61.7	40-130		4/11/25 10:48
D3-NMeFOSA	51.7	10-130		4/11/25 10:48
D5-NEtFOSA	50.1	10-130		4/11/25 10:48
D3-NMeFOSAA	55.7	40-170		4/11/25 10:48
D5-NEtFOSAA	54.5	25-135		4/11/25 10:48
D7-NMeFOSE	53.4	10-130		4/11/25 10:48
D9-NEtFOSE	52.5	10-130		4/11/25 10:48
13C3-HFPO-DA	69.9	40-130		4/11/25 10:48

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-2 | Sampled: 4/3/2025 10:30

Sample ID: 25D0377-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoropentanoic acid (PFPeA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorohexanoic acid (PFHxA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanoic acid (PFOA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorononanoic acid (PFNA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorohexanesulfonic acid (PFHxS)	4.4	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanesulfonic acid (PFOS)	13	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
9Cl-PF3ONS (F53B Minor)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
11Cl-PF3OUdS (F53B Major)	ND	6.6	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	41	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-2 | Sampled: 4/3/2025 10:30

Sample ID: 25D0377-06

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.3	ng/L	1		EPA 1633	4/10/25	4/11/25 10:57	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	58.9	5-130		4/11/25 10:57
13C5-PFPeA	59.5	40-130		4/11/25 10:57
13C5-PFHxA	57.2	40-130		4/11/25 10:57
13C4-PFHpA	56.5	40-130		4/11/25 10:57
13C8-PFOA	55.8	40-130		4/11/25 10:57
13C9-PFNA	56.1	40-130		4/11/25 10:57
13C6-PFDA	55.1	40-130		4/11/25 10:57
13C7-PFUnA	63.8	30-130		4/11/25 10:57
13C2-PFDoA	53.0	10-130		4/11/25 10:57
13C2-PFTeDA	52.4	10-130		4/11/25 10:57
13C3-PFBS	55.0	40-135		4/11/25 10:57
13C3-PFHxS	55.5	40-130		4/11/25 10:57
13C8-PFOS	55.5	40-130		4/11/25 10:57
13C2-4:2FTS	53.3	40-200		4/11/25 10:57
13C2-6:2FTS	57.0	40-200		4/11/25 10:57
13C2-8:2FTS	54.9	40-300		4/11/25 10:57
13C8-PFOSA	53.5	40-130		4/11/25 10:57
D3-NMeFOSA	46.8	10-130		4/11/25 10:57
D5-NEtFOSA	46.0	10-130		4/11/25 10:57
D3-NMeFOSAA	47.9	40-170		4/11/25 10:57
D5-NEtFOSAA	47.1	25-135		4/11/25 10:57
D7-NMeFOSE	45.7	10-130		4/11/25 10:57
D9-NEtFOSE	44.5	10-130		4/11/25 10:57
13C3-HFPO-DA	57.3	40-130		4/11/25 10:57

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 | Sampled: 4/3/2025 10:55

Sample ID: 25D0377-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoropentanoic acid (PFPeA)	5.4	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorohexanoic acid (PFHxA)	6.4	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroheptanoic acid (PFHpA)	2.2	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanoic acid (PFOA)	3.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorononanoic acid (PFNA)	2.7	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorobutanesulfonic acid (PFBS)	5.0	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoropentanesulfonic acid (PFPeS)	5.3	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorohexanesulfonic acid (PFHxS)	73	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoroheptanesulfonic acid (PFHpS)	3.1	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanesulfonic acid (PFOS)	160	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 | Sampled: 4/3/2025 10:55

Sample ID: 25D0377-07

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:34	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	65.0	5-130		4/11/25 11:34
13C5-PFPeA	64.3	40-130		4/11/25 11:34
13C5-PFHxA	61.5	40-130		4/11/25 11:34
13C4-PFHpA	59.4	40-130		4/11/25 11:34
13C8-PFOA	60.4	40-130		4/11/25 11:34
13C9-PFNA	60.0	40-130		4/11/25 11:34
13C6-PFDA	56.2	40-130		4/11/25 11:34
13C7-PFUnA	54.9	30-130		4/11/25 11:34
13C2-PFDoA	46.6	10-130		4/11/25 11:34
13C2-PFTeDA	47.3	10-130		4/11/25 11:34
13C3-PFBS	57.6	40-135		4/11/25 11:34
13C3-PFHxS	60.7	40-130		4/11/25 11:34
13C8-PFOS	56.3	40-130		4/11/25 11:34
13C2-4:2FTS	62.9	40-200		4/11/25 11:34
13C2-6:2FTS	72.6	40-200		4/11/25 11:34
13C2-8:2FTS	64.3	40-300		4/11/25 11:34
13C8-PFOSA	54.6	40-130		4/11/25 11:34
D3-NMeFOSA	46.3	10-130		4/11/25 11:34
D5-NEtFOSA	44.5	10-130		4/11/25 11:34
D3-NMeFOSAA	43.8	40-170		4/11/25 11:34
D5-NEtFOSAA	45.3	25-135		4/11/25 11:34
D7-NMeFOSE	45.3	10-130		4/11/25 11:34
D9-NEtFOSE	43.5	10-130		4/11/25 11:34
13C3-HFPO-DA	63.0	40-130		4/11/25 11:34

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 DUP | Sampled: 4/3/2025 11:00

Sample ID: 25D0377-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoropentanoic acid (PFPeA)	5.5	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorohexanoic acid (PFHxA)	6.9	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroheptanoic acid (PFHpA)	2.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanoic acid (PFOA)	4.5	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorononanoic acid (PFNA)	3.1	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorodecanoic acid (PFDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorododecanoic acid (PFDoA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorobutanesulfonic acid (PFBS)	5.1	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoropentanesulfonic acid (PFPeS)	5.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorohexanesulfonic acid (PFHxS)	83	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoroheptanesulfonic acid (PFHpS)	3.7	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanesulfonic acid (PFOS)	170	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-MeFOSAA (NMeFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-EtFOSAA (NEtFOSAA)	ND	1.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	17	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
9Cl-PF3ONS (F53B Minor)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
11Cl-PF3OUdS (F53B Major)	ND	6.7	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	42	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-6 DUP | Sampled: 4/3/2025 11:00

Sample ID: 25D0377-08

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.4	ng/L	1		EPA 1633	4/10/25	4/11/25 11:43	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	59.2	5-130		4/11/25 11:43
13C5-PFPeA	58.1	40-130		4/11/25 11:43
13C5-PFHxA	55.9	40-130		4/11/25 11:43
13C4-PFHpA	52.3	40-130		4/11/25 11:43
13C8-PFOA	55.3	40-130		4/11/25 11:43
13C9-PFNA	53.8	40-130		4/11/25 11:43
13C6-PFDA	53.0	40-130		4/11/25 11:43
13C7-PFUnA	55.7	30-130		4/11/25 11:43
13C2-PFDoA	46.1	10-130		4/11/25 11:43
13C2-PFTeDA	46.3	10-130		4/11/25 11:43
13C3-PFBS	51.9	40-135		4/11/25 11:43
13C3-PFHxS	51.5	40-130		4/11/25 11:43
13C8-PFOS	48.4	40-130		4/11/25 11:43
13C2-4:2FTS	52.5	40-200		4/11/25 11:43
13C2-6:2FTS	56.4	40-200		4/11/25 11:43
13C2-8:2FTS	54.3	40-300		4/11/25 11:43
13C8-PFOSA	50.6	40-130		4/11/25 11:43
D3-NMeFOSA	44.3	10-130		4/11/25 11:43
D5-NEtFOSA	43.2	10-130		4/11/25 11:43
D3-NMeFOSAA	40.0	40-170		4/11/25 11:43
D5-NEtFOSAA	38.6	25-135		4/11/25 11:43
D7-NMeFOSE	44.6	10-130		4/11/25 11:43
D9-NEtFOSE	43.0	10-130		4/11/25 11:43
13C3-HFPO-DA	57.3	40-130		4/11/25 11:43

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-7 | Sampled: 4/3/2025 11:25

Sample ID: 25D0377-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorohexanoic acid (PFHxA)	4.8	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroheptanoic acid (PFHpA)	1.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanoic acid (PFOA)	5.5	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorobutanesulfonic acid (PFBS)	6.5	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoropentanesulfonic acid (PFPeS)	10	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorohexanesulfonic acid (PFHxS)	120	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoroheptanesulfonic acid (PFHpS)	6.0	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanesulfonic acid (PFOS)	290	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: PW-7 | Sampled: 4/3/2025 11:25

Sample ID: 25D0377-09

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 11:52	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	62.4	5-130		4/11/25 11:52
13C5-PFPeA	64.7	40-130		4/11/25 11:52
13C5-PFHxA	60.9	40-130		4/11/25 11:52
13C4-PFHpA	59.9	40-130		4/11/25 11:52
13C8-PFOA	64.2	40-130		4/11/25 11:52
13C9-PFNA	57.8	40-130		4/11/25 11:52
13C6-PFDA	60.0	40-130		4/11/25 11:52
13C7-PFUnA	66.2	30-130		4/11/25 11:52
13C2-PFDoA	57.7	10-130		4/11/25 11:52
13C2-PFTeDA	53.8	10-130		4/11/25 11:52
13C3-PFBS	60.0	40-135		4/11/25 11:52
13C3-PFHxS	61.9	40-130		4/11/25 11:52
13C8-PFOS	60.7	40-130		4/11/25 11:52
13C2-4:2FTS	64.4	40-200		4/11/25 11:52
13C2-6:2FTS	65.0	40-200		4/11/25 11:52
13C2-8:2FTS	64.2	40-300		4/11/25 11:52
13C8-PFOSA	59.0	40-130		4/11/25 11:52
D3-NMeFOSA	49.9	10-130		4/11/25 11:52
D5-NEtFOSA	49.7	10-130		4/11/25 11:52
D3-NMeFOSAA	43.8	40-170		4/11/25 11:52
D5-NEtFOSAA	43.9	25-135		4/11/25 11:52
D7-NMeFOSE	51.5	10-130		4/11/25 11:52
D9-NEtFOSE	50.2	10-130		4/11/25 11:52
13C3-HFPO-DA	62.5	40-130		4/11/25 11:52

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: EB-02-0425 | Sampled: 4/3/2025 11:50

Sample ID: 25D0377-10

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: EB-02-0425 | Sampled: 4/3/2025 11:50

Sample ID: 25D0377-10

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:01	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	66.7	5-130		4/11/25 12:01
13C5-PFPeA	67.5	40-130		4/11/25 12:01
13C5-PFHxA	67.3	40-130		4/11/25 12:01
13C4-PFHpA	62.9	40-130		4/11/25 12:01
13C8-PFOA	68.3	40-130		4/11/25 12:01
13C9-PFNA	67.0	40-130		4/11/25 12:01
13C6-PFDA	64.3	40-130		4/11/25 12:01
13C7-PFUnA	65.6	30-130		4/11/25 12:01
13C2-PFDoA	58.7	10-130		4/11/25 12:01
13C2-PFTeDA	58.9	10-130		4/11/25 12:01
13C3-PFBS	66.4	40-135		4/11/25 12:01
13C3-PFHxS	69.2	40-130		4/11/25 12:01
13C8-PFOS	64.9	40-130		4/11/25 12:01
13C2-4:2FTS	79.8	40-200		4/11/25 12:01
13C2-6:2FTS	76.4	40-200		4/11/25 12:01
13C2-8:2FTS	71.4	40-300		4/11/25 12:01
13C8-PFOSA	58.8	40-130		4/11/25 12:01
D3-NMeFOSA	47.8	10-130		4/11/25 12:01
D5-NEtFOSA	48.5	10-130		4/11/25 12:01
D3-NMeFOSAA	55.5	40-170		4/11/25 12:01
D5-NEtFOSAA	55.5	25-135		4/11/25 12:01
D7-NMeFOSE	54.0	10-130		4/11/25 12:01
D9-NEtFOSE	53.5	10-130		4/11/25 12:01
13C3-HFPO-DA	65.3	40-130		4/11/25 12:01

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-AQ-0425 | Sampled: 4/3/2025 12:30

Sample ID: 25D0377-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	8.3	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoropentanoic acid (PFPeA)	13	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorohexanoic acid (PFHxA)	20	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroheptanoic acid (PFHpA)	8.9	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanoic acid (PFOA)	13	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorononanoic acid (PFNA)	12	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorobutanesulfonic acid (PFBS)	8.8	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoropentanesulfonic acid (PFPeS)	11	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorohexanesulfonic acid (PFHxS)	220	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoroheptanesulfonic acid (PFHpS)	10	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanesulfonic acid (PFOS)	1400	16	ng/L	10	D	EPA 1633	4/10/25	4/14/25 17:31	CML
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
9Cl-PF3ONS (F53B Minor)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
11Cl-PF3OUdS (F53B Major)	ND	6.4	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	8.0	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	40	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-AQ-0425 | Sampled: 4/3/2025 12:30

Sample ID: 25D0377-11

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L	1		EPA 1633	4/10/25	4/11/25 12:11	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	64.5	5-130		4/11/25 12:11
13C5-PFPeA	64.7	40-130		4/11/25 12:11
13C5-PFHxA	63.4	40-130		4/11/25 12:11
13C4-PFHpA	59.8	40-130		4/11/25 12:11
13C8-PFOA	66.0	40-130		4/11/25 12:11
13C9-PFNA	63.7	40-130		4/11/25 12:11
13C6-PFDA	61.6	40-130		4/11/25 12:11
13C7-PFUnA	68.7	30-130		4/11/25 12:11
13C2-PFDoA	63.1	10-130		4/11/25 12:11
13C2-PFTeDA	54.3	10-130		4/11/25 12:11
13C3-PFBS	61.0	40-135		4/11/25 12:11
13C3-PFHxS	63.8	40-130		4/11/25 12:11
13C8-PFOS	64.1	40-130		4/11/25 12:11
13C8-PFOS	46.4	40-130		4/14/25 17:31
13C2-4:2FTS	72.0	40-200		4/11/25 12:11
13C2-6:2FTS	66.3	40-200		4/11/25 12:11
13C2-8:2FTS	65.6	40-300		4/11/25 12:11
13C8-PFOSA	64.1	40-130		4/11/25 12:11
D3-NMeFOSA	48.0	10-130		4/11/25 12:11
D5-NEtFOSA	44.4	10-130		4/11/25 12:11
D3-NMeFOSAA	55.0	40-170		4/11/25 12:11
D5-NEtFOSAA	59.7	25-135		4/11/25 12:11
D7-NMeFOSE	58.1	10-130		4/11/25 12:11
D9-NEtFOSE	57.3	10-130		4/11/25 12:11
13C3-HFPO-DA	60.0	40-130		4/11/25 12:11

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorohexanesulfonic acid (PFHxS)	0.24	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanesulfonic acid (PFOS)	6.0	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	4/9/25	4/9/25 19:14	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	69.0	8-130		4/9/25 19:14
13C5-PFPeA	75.9	35-130		4/9/25 19:14
13C5-PFHxA	74.6	40-130		4/9/25 19:14
13C4-PFHpA	71.2	40-130		4/9/25 19:14
13C8-PFOA	72.3	40-130		4/9/25 19:14
13C9-PFNA	74.1	40-130		4/9/25 19:14
13C6-PFDA	76.2	40-130		4/9/25 19:14
13C7-PFUnA	81.4	40-130		4/9/25 19:14
13C2-PFDoA	77.0	40-130		4/9/25 19:14
13C2-PFTeDA	76.2	20-130		4/9/25 19:14
13C3-PFBS	71.7	40-135		4/9/25 19:14
13C3-PFHxS	72.4	40-130		4/9/25 19:14
13C8-PFOS	73.1	40-130		4/9/25 19:14
13C2-4:2FTS	73.8	40-165		4/9/25 19:14
13C2-6:2FTS	76.8	40-215		4/9/25 19:14
13C2-8:2FTS	71.0	40-275		4/9/25 19:14
13C8-PFOSA	71.9	40-130		4/9/25 19:14
D3-NMeFOSA	64.0	10-130		4/9/25 19:14
D5-NEtFOSA	62.2	10-130		4/9/25 19:14
D3-NMeFOSAA	71.2	40-135		4/9/25 19:14
D5-NEtFOSAA	69.5	40-150		4/9/25 19:14
D7-NMeFOSE	71.1	20-130		4/9/25 19:14
D9-NEtFOSE	71.0	15-130		4/9/25 19:14
13C3-HFPO-DA	75.4	40-130		4/9/25 19:14

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Saegertown, PA | Sample Description: | Work Order: 25D0377

Date Received: 4/4/2025

Field Sample #: IDW-SOIL-0425 | Sampled: 4/3/2025 12:40

Sample ID: 25D0377-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	4/6/25	4/6/25 9:55	ANR

Pace Analytical Services, LLC - East Longmeadow, Ma

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Sample Extraction Data

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
25D0377-12 [IDW-SOIL-0425]	B402522	5.87	4.00	04/09/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-04 [FB-0425]	B402520	492	4.00	04/10/25
25D0377-05 [PW-1]	B402520	515	4.00	04/10/25
25D0377-06 [PW-2]	B402520	482	4.00	04/10/25
25D0377-07 [PW-6]	B402520	502	4.00	04/10/25
25D0377-08 [PW-6 DUP]	B402520	475	4.00	04/10/25
25D0377-09 [PW-7]	B402520	505	4.00	04/10/25
25D0377-10 [EB-02-0425]	B402520	498	4.00	04/10/25
25D0377-11 [IDW-AQ-0425]	B402520	499	4.00	04/10/25
25D0377-11RE1 [IDW-AQ-0425]	B402520	499	4.00	04/10/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-03RE1 [BMW-10]	B402610	494	4.00	04/17/25

Prep Method:EPA 1633 **Analytical Method:EPA 1633**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25D0377-01RE1 [BMW-2]	B402935	25.0	4.00	04/14/25
25D0377-02RE1 [BMW-3]	B402935	5.00	4.00	04/14/25

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
25D0377-12 [IDW-SOIL-0425]	B402384	04/06/25

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Blank (B402520-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*58.2*		ng/L	78.21		74.4	5-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Blank (B402520-BLK1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C5-PFPeA	*29.7*		ng/L	39.10		75.9	40-130			
Surrogate: 13C5-PFHxA	*14.1*		ng/L	19.55		72.1	40-130			
Surrogate: 13C4-PFHpA	*13.4*		ng/L	19.55		68.4	40-130			
Surrogate: 13C8-PFOA	*14.1*		ng/L	19.55		72.2	40-130			
Surrogate: 13C9-PFNA	*6.68*		ng/L	9.776		68.4	40-130			
Surrogate: 13C6-PFDA	*6.67*		ng/L	9.776		68.3	40-130			
Surrogate: 13C7-PFUnA	*6.91*		ng/L	9.776		70.7	30-130			
Surrogate: 13C2-PFDoA	*6.12*		ng/L	9.776		62.6	10-130			
Surrogate: 13C2-PFTeDA	*6.27*		ng/L	9.776		64.1	10-130			
Surrogate: 13C3-PFBS	*12.9*		ng/L	19.55		65.8	40-135			
Surrogate: 13C3-PFHxS	*13.5*		ng/L	19.55		69.1	40-130			
Surrogate: 13C8-PFOS	*13.4*		ng/L	19.55		68.4	40-130			
Surrogate: 13C2-4:2FTS	*29.0*		ng/L	39.10		74.2	40-200			
Surrogate: 13C2-6:2FTS	*27.7*		ng/L	39.10		70.7	40-200			
Surrogate: 13C2-8:2FTS	*25.3*		ng/L	39.10		64.8	40-300			
Surrogate: 13C8-PFOSA	*12.6*		ng/L	19.55		64.4	40-130			
Surrogate: D3-NMeFOSA	*11.4*		ng/L	19.55		58.4	10-130			
Surrogate: D5-NEtFOSA	*11.1*		ng/L	19.55		56.6	10-130			
Surrogate: D3-NMeFOSAA	*23.7*		ng/L	39.10		60.6	40-170			
Surrogate: D5-NEtFOSAA	*23.4*		ng/L	39.10		60.0	25-135			
Surrogate: D7-NMeFOSE	*124*		ng/L	195.5		63.2	10-130			
Surrogate: D9-NEtFOSE	*122*		ng/L	195.5		62.2	10-130			
Surrogate: 13C3-HFPO-DA	*57.5*		ng/L	78.21		73.6	40-130			
LCS (B402520-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	81.6	6.2	ng/L	77.32		106	70-140			
Perfluoropentanoic acid (PFPeA)	40.5	3.1	ng/L	38.66		105	65-135			
Perfluorohexanoic acid (PFHxA)	20.4	1.5	ng/L	19.33		106	70-145			
Perfluoroheptanoic acid (PFHpA)	20.5	1.5	ng/L	19.33		106	70-150			
Perfluorooctanoic acid (PFOA)	18.5	1.5	ng/L	19.33		95.9	70-150			
Perfluorononanoic acid (PFNA)	20.4	1.5	ng/L	19.33		106	70-150			
Perfluorodecanoic acid (PFDA)	20.1	1.5	ng/L	19.33		104	70-140			
Perfluoroundecanoic acid (PFUnA)	21.0	1.5	ng/L	19.33		109	70-145			
Perfluorododecanoic acid (PFDoA)	21.9	1.5	ng/L	19.33		113	70-140			
Perfluorotridecanoic acid (PFTrDA)	21.4	1.5	ng/L	19.33		111	65-140			
Perfluorotetradecanoic acid (PFTeDA)	21.6	1.5	ng/L	19.33		112	60-140			
Perfluorobutanesulfonic acid (PFBS)	18.8	1.5	ng/L	17.17		110	60-145			
Perfluoropentanesulfonic acid (PFPeS)	19.0	1.5	ng/L	18.17		104	65-140			
Perfluorohexanesulfonic acid (PFHxS)	17.4	1.5	ng/L	17.63		98.9	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	20.5	1.5	ng/L	18.40		111	70-150			
Perfluorooctanesulfonic acid (PFOS)	18.6	1.5	ng/L	17.94		103	55-150			
Perfluorononanesulfonic acid (PFNS)	18.9	1.5	ng/L	18.56		102	65-145			
Perfluorodecanesulfonic acid (PFDS)	18.5	1.5	ng/L	18.63		99.1	60-145			
Perfluorododecanesulfonic acid (PFDoS)	17.5	1.5	ng/L	18.71		93.7	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	81.3	6.2	ng/L	72.45		112	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	85.0	6.2	ng/L	73.53		116	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	86.1	6.2	ng/L	74.23		116	60-150			
Perfluorooctanesulfonamide (PFOSA)	20.0	1.5	ng/L	19.33		103	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.0	1.5	ng/L	19.33		109	60-150			

Pace Analytical Services, LLC - East Longmeadow, Ma

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
LCS (B402520-BS1)				Prepared: 04/10/25 Analyzed: 04/11/25						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	20.0	1.5	ng/L	19.33		103	65-145			
N-MeFOSAA (NMeFOSAA)	18.8	1.5	ng/L	19.33		97.4	50-140			
N-EtFOSAA (NEtFOSAA)	18.9	1.5	ng/L	19.33		97.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	206	15	ng/L	193.3		107	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	213	15	ng/L	193.3		110	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	85.6	6.2	ng/L	77.32		111	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	83.1	6.2	ng/L	73.07		114	65-145			
9Cl-PF3ONS (F53B Minor)	76.1	6.2	ng/L	72.14		105	70-155			
11Cl-PF3OUdS (F53B Major)	74.8	6.2	ng/L	71.91		104	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	102	7.7	ng/L	96.65		106	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	546	39	ng/L	483.3		113	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	516	39	ng/L	483.3		107	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	39.8	3.1	ng/L	34.49		115	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	41.3	3.1	ng/L	38.66		107	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	3.1	ng/L	38.66		104	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	39.9	3.1	ng/L	38.66		103	50-150			
Surrogate: 13C4-PFBA	*61.7*		ng/L	77.32		79.8	5-130			
Surrogate: 13C5-PFPeA	*32.2*		ng/L	38.66		83.4	40-130			
Surrogate: 13C5-PFHxA	*15.5*		ng/L	19.33		80.3	40-130			
Surrogate: 13C4-PFHpA	*14.6*		ng/L	19.33		75.6	40-130			
Surrogate: 13C8-PFOA	*14.9*		ng/L	19.33		76.9	40-130			
Surrogate: 13C9-PFNA	*7.75*		ng/L	9.665		80.2	40-130			
Surrogate: 13C6-PFDA	*7.84*		ng/L	9.665		81.1	40-130			
Surrogate: 13C7-PFUnA	*7.50*		ng/L	9.665		77.6	30-130			
Surrogate: 13C2-PFDoA	*6.79*		ng/L	9.665		70.3	10-130			
Surrogate: 13C2-PFTeDA	*6.57*		ng/L	9.665		68.0	10-130			
Surrogate: 13C3-PFBS	*14.9*		ng/L	19.33		77.0	40-135			
Surrogate: 13C3-PFHxS	*16.1*		ng/L	19.33		83.2	40-130			
Surrogate: 13C8-PFOS	*15.9*		ng/L	19.33		82.2	40-130			
Surrogate: 13C2-4:2FTS	*31.4*		ng/L	38.66		81.3	40-200			
Surrogate: 13C2-6:2FTS	*31.8*		ng/L	38.66		82.1	40-200			
Surrogate: 13C2-8:2FTS	*28.3*		ng/L	38.66		73.3	40-300			
Surrogate: 13C8-PFOSA	*14.4*		ng/L	19.33		74.4	40-130			
Surrogate: D3-NMeFOSA	*13.5*		ng/L	19.33		69.6	10-130			
Surrogate: D5-NEtFOSA	*14.0*		ng/L	19.33		72.3	10-130			
Surrogate: D3-NMeFOSAA	*29.0*		ng/L	38.66		75.1	40-170			
Surrogate: D5-NEtFOSAA	*29.1*		ng/L	38.66		75.4	25-135			
Surrogate: D7-NMeFOSE	*139*		ng/L	193.3		72.0	10-130			
Surrogate: D9-NEtFOSE	*135*		ng/L	193.3		70.0	10-130			
Surrogate: 13C3-HFPO-DA	*62.0*		ng/L	77.32		80.1	40-130			
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	13.2	6.3	ng/L	12.62		105	70-140			
Perfluoropentanoic acid (PFPeA)	6.70	3.2	ng/L	6.310		106	65-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorohexanoic acid (PFHxA)	3.39	1.6	ng/L	3.155		107	70-145			
Perfluoroheptanoic acid (PFHpA)	3.29	1.6	ng/L	3.155		104	70-150			
Perfluorooctanoic acid (PFOA)	3.04	1.6	ng/L	3.155		96.4	70-150			
Perfluorononanoic acid (PFNA)	3.24	1.6	ng/L	3.155		103	70-150			
Perfluorodecanoic acid (PFDA)	3.31	1.6	ng/L	3.155		105	70-140			
Perfluoroundecanoic acid (PFUnA)	3.32	1.6	ng/L	3.155		105	70-145			
Perfluorododecanoic acid (PFDoA)	3.37	1.6	ng/L	3.155		107	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.91	1.6	ng/L	3.155		92.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	3.39	1.6	ng/L	3.155		108	60-140			
Perfluorobutanesulfonic acid (PFBS)	3.08	1.6	ng/L	2.802		110	60-145			
Perfluoropentanesulfonic acid (PFPeS)	3.15	1.6	ng/L	2.966		106	65-140			
Perfluorohexanesulfonic acid (PFHxS)	3.21	1.6	ng/L	2.878		111	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	3.38	1.6	ng/L	3.004		112	70-150			
Perfluorooctanesulfonic acid (PFOS)	3.30	1.6	ng/L	2.928		113	55-150			
Perfluorononanesulfonic acid (PFNS)	3.13	1.6	ng/L	3.029		103	65-145			
Perfluorodecanesulfonic acid (PFDS)	3.16	1.6	ng/L	3.042		104	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.93	1.6	ng/L	3.054		95.9	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	12.4	6.3	ng/L	11.83		105	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	13.4	6.3	ng/L	12.00		112	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	15.0	6.3	ng/L	12.12		124	60-150			
Perfluorooctanesulfonamide (PFOSA)	3.29	1.6	ng/L	3.155		104	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	3.52	1.6	ng/L	3.155		111	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	3.36	1.6	ng/L	3.155		106	65-145			
N-MeFOSAA (NMeFOSAA)	3.36	1.6	ng/L	3.155		106	50-140			
N-EtFOSAA (NEtFOSAA)	3.40	1.6	ng/L	3.155		108	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	32.2	16	ng/L	31.55		102	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	33.8	16	ng/L	31.55		107	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.9	6.3	ng/L	12.62		102	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	13.8	6.3	ng/L	11.93		115	65-145			
9Cl-PF3ONS (F53B Minor)	12.8	6.3	ng/L	11.78		109	70-155			
11Cl-PF3OUdS (F53B Major)	12.8	6.3	ng/L	11.74		109	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	16.1	7.9	ng/L	15.78		102	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	91.6	39	ng/L	78.88		116	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	80.8	39	ng/L	78.88		102	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	6.55	3.2	ng/L	5.629		116	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.68	3.2	ng/L	6.310		106	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.34	3.2	ng/L	6.310		100	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.70	3.2	ng/L	6.310		106	50-150			
Surrogate: 13C4-PFBA	*57.2*		ng/L	78.88		72.6	5-130			
Surrogate: 13C5-PFPeA	*29.0*		ng/L	39.44		73.5	40-130			
Surrogate: 13C5-PFHxA	*13.9*		ng/L	19.72		70.2	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
MRL Check (B402520-MRL1)				Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C4-PFHpA	*13.1*		ng/L	19.72		66.2	40-130			
Surrogate: 13C8-PFOA	*13.8*		ng/L	19.72		70.2	40-130			
Surrogate: 13C9-PFNA	*7.28*		ng/L	9.860		73.9	40-130			
Surrogate: 13C6-PFDA	*7.21*		ng/L	9.860		73.1	40-130			
Surrogate: 13C7-PFUnA	*7.37*		ng/L	9.860		74.8	30-130			
Surrogate: 13C2-PFDoA	*6.65*		ng/L	9.860		67.5	10-130			
Surrogate: 13C2-PFTeDA	*6.44*		ng/L	9.860		65.4	10-130			
Surrogate: 13C3-PFBS	*13.3*		ng/L	19.72		67.3	40-135			
Surrogate: 13C3-PFHxS	*13.6*		ng/L	19.72		68.7	40-130			
Surrogate: 13C8-PFOS	*13.8*		ng/L	19.72		70.0	40-130			
Surrogate: 13C2-4:2FTS	*32.0*		ng/L	39.44		81.2	40-200			
Surrogate: 13C2-6:2FTS	*30.1*		ng/L	39.44		76.2	40-200			
Surrogate: 13C2-8:2FTS	*26.0*		ng/L	39.44		66.0	40-300			
Surrogate: 13C8-PFOSA	*12.7*		ng/L	19.72		64.6	40-130			
Surrogate: D3-NMeFOSA	*11.3*		ng/L	19.72		57.4	10-130			
Surrogate: D5-NEtFOSA	*11.1*		ng/L	19.72		56.1	10-130			
Surrogate: D3-NMeFOSAA	*25.5*		ng/L	39.44		64.6	40-170			
Surrogate: D5-NEtFOSAA	*24.9*		ng/L	39.44		63.1	25-135			
Surrogate: D7-NMeFOSE	*125*		ng/L	197.2		63.2	10-130			
Surrogate: D9-NEtFOSE	*122*		ng/L	197.2		61.8	10-130			
Surrogate: 13C3-HFPO-DA	*54.1*		ng/L	78.88		68.6	40-130			
Matrix Spike (B402520-MS2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	92.1	6.9	ng/L	86.01	2.27	104	70-140			
Perfluoropentanoic acid (PFPeA)	48.7	3.4	ng/L	43.01	3.23	106	65-135			
Perfluorohexanoic acid (PFHxA)	25.3	1.7	ng/L	21.50	2.10	108	70-145			
Perfluoroheptanoic acid (PFHpA)	23.7	1.7	ng/L	21.50	0.930	106	70-150			
Perfluorooctanoic acid (PFOA)	23.2	1.7	ng/L	21.50	3.15	93.3	70-150			
Perfluorononanoic acid (PFNA)	22.6	1.7	ng/L	21.50	ND	105	70-150			
Perfluorodecanoic acid (PFDA)	21.7	1.7	ng/L	21.50	ND	101	70-140			
Perfluoroundecanoic acid (PFUnA)	22.8	1.7	ng/L	21.50	ND	106	70-145			
Perfluorododecanoic acid (PFDoA)	23.1	1.7	ng/L	21.50	ND	108	70-140			
Perfluorotridecanoic acid (PFTrDA)	23.4	1.7	ng/L	21.50	ND	109	65-140			
Perfluorotetradecanoic acid (PFTeDA)	24.8	1.7	ng/L	21.50	ND	115	60-140			
Perfluorobutanesulfonic acid (PFBS)	22.8	1.7	ng/L	19.09	1.94	109	60-145			
Perfluoropentanesulfonic acid (PFPeS)	21.1	1.7	ng/L	20.21	ND	104	65-140			
Perfluorohexanesulfonic acid (PFHxS)	21.9	1.7	ng/L	19.61	1.46	104	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	23.1	1.7	ng/L	20.47	ND	113	70-150			
Perfluorooctanesulfonic acid (PFOS)	21.1	1.7	ng/L	19.95	1.10	100	55-150			
Perfluorononanesulfonic acid (PFNS)	19.9	1.7	ng/L	20.64	ND	96.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	20.2	1.7	ng/L	20.73	ND	97.5	60-145			
Perfluorododecanesulfonic acid (PFDoS)	20.1	1.7	ng/L	20.81	ND	96.8	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	90.7	6.9	ng/L	80.59	ND	113	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	98.0	6.9	ng/L	81.80	ND	120	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	92.2	6.9	ng/L	82.57	ND	112	60-150			
Perfluorooctanesulfonamide (PFOSA)	23.2	1.7	ng/L	21.50	ND	108	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.7	1.7	ng/L	21.50	ND	101	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	22.0	1.7	ng/L	21.50	ND	102	65-145			
N-MeFOSAA (NMeFOSAA)	22.1	1.7	ng/L	21.50	ND	103	50-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike (B402520-MS2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
N-EtFOSAA (NEtFOSAA)	22.2	1.7	ng/L	21.50	ND	103	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	227	17	ng/L	215.0	ND	106	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	229	17	ng/L	215.0	ND	106	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.4	6.9	ng/L	86.01	ND	112	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	91.2	6.9	ng/L	81.28	ND	112	65-145			
9Cl-PF3ONS (F53B Minor)	83.9	6.9	ng/L	80.25	ND	105	70-155			
11Cl-PF3OUdS (F53B Major)	84.3	6.9	ng/L	79.99	ND	105	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	111	8.6	ng/L	107.5	ND	103	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	611	43	ng/L	537.6	ND	114	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	575	43	ng/L	537.6	ND	107	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	43.5	3.4	ng/L	38.36	ND	113	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	47.8	3.4	ng/L	43.01	ND	111	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	44.7	3.4	ng/L	43.01	ND	104	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	43.0	3.4	ng/L	43.01	ND	100	50-150			
Surrogate: 13C4-PFBA	*62.4*		ng/L	86.01		72.5	5-130			
Surrogate: 13C5-PFPeA	*32.3*		ng/L	43.01		75.1	40-130			
Surrogate: 13C5-PFHxA	*15.8*		ng/L	21.50		73.4	40-130			
Surrogate: 13C4-PFHpA	*15.4*		ng/L	21.50		71.6	40-130			
Surrogate: 13C8-PFOA	*15.6*		ng/L	21.50		72.6	40-130			
Surrogate: 13C9-PFNA	*7.85*		ng/L	10.75		73.1	40-130			
Surrogate: 13C6-PFDA	*7.50*		ng/L	10.75		69.7	40-130			
Surrogate: 13C7-PFUnA	*7.71*		ng/L	10.75		71.7	30-130			
Surrogate: 13C2-PFDoA	*6.80*		ng/L	10.75		63.3	10-130			
Surrogate: 13C2-PFTeDA	*6.47*		ng/L	10.75		60.2	10-130			
Surrogate: 13C3-PFBS	*14.8*		ng/L	21.50		68.8	40-135			
Surrogate: 13C3-PFHxS	*15.9*		ng/L	21.50		73.8	40-130			
Surrogate: 13C8-PFOS	*14.9*		ng/L	21.50		69.4	40-130			
Surrogate: 13C2-4:2FTS	*28.1*		ng/L	43.01		65.4	40-200			
Surrogate: 13C2-6:2FTS	*29.9*		ng/L	43.01		69.6	40-200			
Surrogate: 13C2-8:2FTS	*29.5*		ng/L	43.01		68.6	40-300			
Surrogate: 13C8-PFOSA	*14.3*		ng/L	21.50		66.3	40-130			
Surrogate: D3-NMeFOSA	*11.6*		ng/L	21.50		54.0	10-130			
Surrogate: D5-NEtFOSA	*11.8*		ng/L	21.50		54.7	10-130			
Surrogate: D3-NMeFOSAA	*25.0*		ng/L	43.01		58.2	40-170			
Surrogate: D5-NEtFOSAA	*26.4*		ng/L	43.01		61.5	25-135			
Surrogate: D7-NMeFOSE	*131*		ng/L	215.0		61.1	10-130			
Surrogate: D9-NEtFOSE	*129*		ng/L	215.0		59.8	10-130			
Surrogate: 13C3-HFPO-DA	*60.7*		ng/L	86.01		70.6	40-130			
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorobutanoic acid (PFBA)	89.1	6.5	ng/L	80.77	2.27	107	70-140	3.40	25	
Perfluoropentanoic acid (PFPeA)	47.4	3.2	ng/L	40.38	3.23	109	65-135	2.72	25	
Perfluorohexanoic acid (PFHxA)	24.8	1.6	ng/L	20.19	2.10	112	70-145	2.10	25	
Perfluoroheptanoic acid (PFHpA)	22.8	1.6	ng/L	20.19	0.930	109	70-150	3.58	25	
Perfluorooctanoic acid (PFOA)	23.7	1.6	ng/L	20.19	3.15	102	70-150	2.20	25	

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Perfluorononanoic acid (PFNA)	22.7	1.6	ng/L	20.19	ND	112	70-150	0.0991	25	
Perfluorodecanoic acid (PFDA)	22.3	1.6	ng/L	20.19	ND	111	70-140	2.75	25	
Perfluoroundecanoic acid (PFUnA)	22.4	1.6	ng/L	20.19	ND	111	70-145	1.79	25	
Perfluorododecanoic acid (PFDoA)	23.9	1.6	ng/L	20.19	ND	118	70-140	3.37	25	
Perfluorotridecanoic acid (PFTrDA)	25.3	1.6	ng/L	20.19	ND	125	65-140	7.75	25	
Perfluorotetradecanoic acid (PFTeDA)	22.5	1.6	ng/L	20.19	ND	112	60-140	9.51	25	
Perfluorobutanesulfonic acid (PFBS)	22.6	1.6	ng/L	17.93	1.94	115	60-145	0.608	25	
Perfluoropentanesulfonic acid (PFPeS)	21.1	1.6	ng/L	18.98	ND	111	65-140	0.0919	25	
Perfluorohexanesulfonic acid (PFHxS)	20.3	1.6	ng/L	18.42	1.46	102	65-145	7.56	25	
Perfluoroheptanesulfonic acid (PFHpS)	24.6	1.6	ng/L	19.22	ND	128	70-150	6.58	25	
Perfluorooctanesulfonic acid (PFOS)	23.4	1.6	ng/L	18.74	1.10	119	55-150	10.3	25	
Perfluorononanesulfonic acid (PFNS)	22.4	1.6	ng/L	19.38	ND	116	65-145	11.6	25	
Perfluorodecanesulfonic acid (PFDS)	20.9	1.6	ng/L	19.47	ND	107	60-145	3.18	25	
Perfluorododecanesulfonic acid (PFDoS)	22.4	1.6	ng/L	19.55	ND	115	50-145	10.7	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	89.0	6.5	ng/L	75.68	ND	118	70-145	1.90	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	92.9	6.5	ng/L	76.81	ND	121	65-155	5.39	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	94.6	6.5	ng/L	77.54	ND	122	60-150	2.56	25	
Perfluorooctanesulfonamide (PFOSA)	22.3	1.6	ng/L	20.19	ND	110	70-145	3.91	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	21.3	1.6	ng/L	20.19	ND	106	60-150	1.61	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	20.4	1.6	ng/L	20.19	ND	101	65-145	7.53	25	
N-MeFOSAA (NMeFOSAA)	20.9	1.6	ng/L	20.19	ND	103	50-140	5.67	25	
N-EtFOSAA (NEtFOSAA)	20.7	1.6	ng/L	20.19	ND	103	70-145	6.88	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	228	16	ng/L	201.9	ND	113	70-145	0.331	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	229	16	ng/L	201.9	ND	113	70-135	0.122	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.6	6.5	ng/L	80.77	ND	120	70-140	0.214	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	87.1	6.5	ng/L	76.33	ND	114	65-145	4.69	25	
9Cl-PF3ONS (F53B Minor)	90.7	6.5	ng/L	75.36	ND	120	70-155	7.79	25	
11Cl-PF3OUdS (F53B Major)	88.7	6.5	ng/L	75.12	ND	118	55-160	5.19	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	106	8.1	ng/L	101.0	ND	105	65-130	4.45	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	614	40	ng/L	504.8	ND	122	70-135	0.427	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	580	40	ng/L	504.8	ND	115	50-145	0.856	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	43.2	3.2	ng/L	36.02	ND	120	70-140	0.586	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	44.6	3.2	ng/L	40.38	ND	110	55-140	6.88	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.9	3.2	ng/L	40.38	ND	109	60-150	1.64	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	39.4	3.2	ng/L	40.38	ND	97.4	50-150	8.95	25	
Surrogate: 13C4-PFBA	*48.3*		ng/L	80.77		59.8	5-130			
Surrogate: 13C5-PFPeA	*24.7*		ng/L	40.38		61.2	40-130			
Surrogate: 13C5-PFHxA	*12.4*		ng/L	20.19		61.5	40-130			
Surrogate: 13C4-PFHpA	*12.4*		ng/L	20.19		61.2	40-130			
Surrogate: 13C8-PFOA	*12.7*		ng/L	20.19		62.8	40-130			
Surrogate: 13C9-PFNA	*6.23*		ng/L	10.10		61.7	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402520 - EPA 1633										
Matrix Spike Dup (B402520-MSD2)	**Source: 25D0377-05**			Prepared: 04/10/25 Analyzed: 04/11/25						
Surrogate: 13C6-PFDA	*6.25*		ng/L	10.10		61.9	40-130			
Surrogate: 13C7-PFUnA	*6.65*		ng/L	10.10		65.8	30-130			
Surrogate: 13C2-PFDoA	*5.58*		ng/L	10.10		55.3	10-130			
Surrogate: 13C2-PFTeDA	*6.02*		ng/L	10.10		59.6	10-130			
Surrogate: 13C3-PFBS	*13.0*		ng/L	20.19		64.1	40-135			
Surrogate: 13C3-PFHxS	*14.1*		ng/L	20.19		69.7	40-130			
Surrogate: 13C8-PFOS	*12.5*		ng/L	20.19		62.1	40-130			
Surrogate: 13C2-4:2FTS	*24.1*		ng/L	40.38		59.7	40-200			
Surrogate: 13C2-6:2FTS	*26.6*		ng/L	40.38		65.9	40-200			
Surrogate: 13C2-8:2FTS	*26.5*		ng/L	40.38		65.6	40-300			
Surrogate: 13C8-PFOSA	*12.5*		ng/L	20.19		62.1	40-130			
Surrogate: D3-NMeFOSA	*11.6*		ng/L	20.19		57.3	10-130			
Surrogate: D5-NEtFOSA	*11.7*		ng/L	20.19		58.2	10-130			
Surrogate: D3-NMeFOSAA	*23.5*		ng/L	40.38		58.1	40-170			
Surrogate: D5-NEtFOSAA	*22.9*		ng/L	40.38		56.7	25-135			
Surrogate: D7-NMeFOSE	*115*		ng/L	201.9		56.9	10-130			
Surrogate: D9-NEtFOSE	*114*		ng/L	201.9		56.6	10-130			
Surrogate: 13C3-HFPO-DA	*49.1*		ng/L	80.77		60.8	40-130			
Batch B402522 - EPA 1633										
Blank (B402522-BLK1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg wet							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.20	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg wet							
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
Blank (B402522-BLK1)				Prepared & Analyzed: 04/09/25						
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	2.0	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.99	µg/kg wet							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4.9	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	*4.89*		µg/kg wet	7.893		61.9	8-130			
Surrogate: 13C5-PFPeA	*2.84*		µg/kg wet	3.946		72.0	35-130			
Surrogate: 13C5-PFHxA	*1.37*		µg/kg wet	1.973		69.6	40-130			
Surrogate: 13C4-PFHpA	*1.32*		µg/kg wet	1.973		66.8	40-130			
Surrogate: 13C8-PFOA	*1.37*		µg/kg wet	1.973		69.7	40-130			
Surrogate: 13C9-PFNA	*0.692*		µg/kg wet	0.9866		70.2	40-130			
Surrogate: 13C6-PFDA	*0.702*		µg/kg wet	0.9866		71.2	40-130			
Surrogate: 13C7-PFUnA	*0.730*		µg/kg wet	0.9866		73.9	40-130			
Surrogate: 13C2-PFDoA	*0.682*		µg/kg wet	0.9866		69.1	40-130			
Surrogate: 13C2-PFTeDA	*0.655*		µg/kg wet	0.9866		66.4	20-130			
Surrogate: 13C3-PFBS	*1.32*		µg/kg wet	1.973		66.7	40-135			
Surrogate: 13C3-PFHxS	*1.33*		µg/kg wet	1.973		67.4	40-130			
Surrogate: 13C8-PFOS	*1.37*		µg/kg wet	1.973		69.6	40-130			
Surrogate: 13C2-4:2FTS	*2.97*		µg/kg wet	3.946		75.3	40-165			
Surrogate: 13C2-6:2FTS	*3.02*		µg/kg wet	3.946		76.7	40-215			
Surrogate: 13C2-8:2FTS	*2.85*		µg/kg wet	3.946		72.3	40-275			
Surrogate: 13C8-PFOSA	*1.42*		µg/kg wet	1.973		71.7	40-130			
Surrogate: D3-NMeFOSA	*1.18*		µg/kg wet	1.973		59.8	10-130			
Surrogate: D5-NEtFOSA	*1.18*		µg/kg wet	1.973		60.0	10-130			
Surrogate: D3-NMeFOSAA	*2.70*		µg/kg wet	3.946		68.4	40-135			
Surrogate: D5-NEtFOSAA	*2.79*		µg/kg wet	3.946		70.6	40-150			
Surrogate: D7-NMeFOSE	*14.4*		µg/kg wet	19.73		72.9	20-130			
Surrogate: D9-NEtFOSE	*14.2*		µg/kg wet	19.73		71.9	15-130			
Surrogate: 13C3-HFPO-DA	*5.28*		µg/kg wet	7.893		66.9	40-130			
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	7.87	0.80	µg/kg wet	7.997		98.4	70-140			
Perfluoropentanoic acid (PFPeA)	3.88	0.40	µg/kg wet	3.998		97.0	60-150			
Perfluorohexanoic acid (PFHxA)	2.03	0.20	µg/kg wet	1.999		101	65-140			
Perfluoroheptanoic acid (PFHpA)	2.04	0.20	µg/kg wet	1.999		102	65-145			
Perfluorooctanoic acid (PFOA)	1.79	0.20	µg/kg wet	1.999		89.3	70-150			
Perfluorononanoic acid (PFNA)	2.03	0.20	µg/kg wet	1.999		102	70-155			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Perfluorodecanoic acid (PFDA)	2.01	0.20	µg/kg wet	1.999		100	70-155			
Perfluoroundecanoic acid (PFUnA)	1.96	0.20	µg/kg wet	1.999		98.2	70-155			
Perfluorododecanoic acid (PFDoA)	2.20	0.20	µg/kg wet	1.999		110	70-150			
Perfluorotridecanoic acid (PFTrDA)	2.17	0.20	µg/kg wet	1.999		108	65-150			
Perfluorotetradecanoic acid (PFTeDA)	2.10	0.20	µg/kg wet	1.999		105	65-150			
Perfluorobutanesulfonic acid (PFBS)	1.82	0.20	µg/kg wet	1.775		103	65-145			
Perfluoropentanesulfonic acid (PFPeS)	1.87	0.20	µg/kg wet	1.879		99.6	55-160			
Perfluorohexanesulfonic acid (PFHxS)	1.74	0.20	µg/kg wet	1.823		95.4	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	1.90	0.20	µg/kg wet	1.903		99.7	65-155			
Perfluorooctanesulfonic acid (PFOS)	1.78	0.20	µg/kg wet	1.855		95.8	65-160			
Perfluorononanesulfonic acid (PFNS)	1.94	0.20	µg/kg wet	1.919		101	55-140			
Perfluorodecanesulfonic acid (PFDS)	1.88	0.20	µg/kg wet	1.927		97.7	40-155			
Perfluorododecanesulfonic acid (PFDoS)	1.98	0.20	µg/kg wet	1.935		102	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.07	0.80	µg/kg wet	7.493		108	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.02	0.80	µg/kg wet	7.605		105	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	7.67	0.80	µg/kg wet	7.677		99.9	70-150			
Perfluorooctanesulfonamide (PFOSA)	1.93	0.20	µg/kg wet	1.999		96.8	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.99	0.20	µg/kg wet	1.999		99.4	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.05	0.20	µg/kg wet	1.999		103	70-140			
N-MeFOSAA (NMeFOSAA)	1.91	0.20	µg/kg wet	1.999		95.6	65-155			
N-EtFOSAA (NEtFOSAA)	1.95	0.20	µg/kg wet	1.999		97.3	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	19.8	2.0	µg/kg wet	19.99		99.3	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.2	2.0	µg/kg wet	19.99		101	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.26	0.80	µg/kg wet	7.997		103	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.92	0.80	µg/kg wet	7.557		105	70-160			
9Cl-PF3ONS (F53B Minor)	7.47	0.80	µg/kg wet	7.461		100	70-150			
11Cl-PF3OUdS (F53B Major)	7.74	0.80	µg/kg wet	7.469		104	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	5.57	1.0	µg/kg wet	9.996		55.7	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	54.4	5.0	µg/kg wet	49.98		109	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	53.3	5.0	µg/kg wet	49.98		107	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	3.71	0.40	µg/kg wet	3.567		104	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.14	0.40	µg/kg wet	3.998		103	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.88	0.40	µg/kg wet	3.998		96.9	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.55	0.40	µg/kg wet	3.998		88.8	60-155			
Surrogate: 13C4-PFBA	*5.54*		µg/kg wet	7.997		69.3	8-130			
Surrogate: 13C5-PFPeA	*3.08*		µg/kg wet	3.998		77.0	35-130			
Surrogate: 13C5-PFHxA	*1.51*		µg/kg wet	1.999		75.3	40-130			
Surrogate: 13C4-PFHpA	*1.41*		µg/kg wet	1.999		70.5	40-130			
Surrogate: 13C8-PFOA	*1.56*		µg/kg wet	1.999		78.0	40-130			
Surrogate: 13C9-PFNA	*0.744*		µg/kg wet	0.9996		74.5	40-130			
Surrogate: 13C6-PFDA	*0.726*		µg/kg wet	0.9996		72.6	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
LCS (B402522-BS1)				Prepared & Analyzed: 04/09/25						
Surrogate: 13C7-PFUnA	*0.785*		µg/kg wet	0.9996		78.5	40-130			
Surrogate: 13C2-PFDoA	*0.685*		µg/kg wet	0.9996		68.5	40-130			
Surrogate: 13C2-PFTeDA	*0.667*		µg/kg wet	0.9996		66.7	20-130			
Surrogate: 13C3-PFBS	*1.49*		µg/kg wet	1.999		74.4	40-135			
Surrogate: 13C3-PFHxS	*1.53*		µg/kg wet	1.999		76.6	40-130			
Surrogate: 13C8-PFOS	*1.53*		µg/kg wet	1.999		76.3	40-130			
Surrogate: 13C2-4:2FTS	*3.23*		µg/kg wet	3.998		80.7	40-165			
Surrogate: 13C2-6:2FTS	*3.27*		µg/kg wet	3.998		81.8	40-215			
Surrogate: 13C2-8:2FTS	*3.39*		µg/kg wet	3.998		84.8	40-275			
Surrogate: 13C8-PFOSA	*1.48*		µg/kg wet	1.999		73.9	40-130			
Surrogate: D3-NMeFOSA	*1.20*		µg/kg wet	1.999		60.1	10-130			
Surrogate: D5-NEtFOSA	*1.21*		µg/kg wet	1.999		60.4	10-130			
Surrogate: D3-NMeFOSAA	*2.98*		µg/kg wet	3.998		74.6	40-135			
Surrogate: D5-NEtFOSAA	*2.91*		µg/kg wet	3.998		72.9	40-150			
Surrogate: D7-NMeFOSE	*14.5*		µg/kg wet	19.99		72.8	20-130			
Surrogate: D9-NEtFOSE	*14.3*		µg/kg wet	19.99		71.5	15-130			
Surrogate: 13C3-HFPO-DA	*5.87*		µg/kg wet	7.997		73.4	40-130			
MRL Check (B402522-MRL1)				Prepared & Analyzed: 04/09/25						
Perfluorobutanoic acid (PFBA)	1.44	0.79	µg/kg wet	1.269		113	70-140			
Perfluoropentanoic acid (PFPeA)	0.701	0.40	µg/kg wet	0.6344		110	60-150			
Perfluorohexanoic acid (PFHxA)	0.357	0.20	µg/kg wet	0.3172		113	65-140			
Perfluoroheptanoic acid (PFHpA)	0.352	0.20	µg/kg wet	0.3172		111	65-145			
Perfluorooctanoic acid (PFOA)	0.344	0.20	µg/kg wet	0.3172		109	70-150			
Perfluorononanoic acid (PFNA)	0.327	0.20	µg/kg wet	0.3172		103	70-155			
Perfluorodecanoic acid (PFDA)	0.353	0.20	µg/kg wet	0.3172		111	70-155			
Perfluoroundecanoic acid (PFUnA)	0.312	0.20	µg/kg wet	0.3172		98.3	70-155			
Perfluorododecanoic acid (PFDoA)	0.349	0.20	µg/kg wet	0.3172		110	70-150			
Perfluorotridecanoic acid (PFTrDA)	0.346	0.20	µg/kg wet	0.3172		109	65-150			
Perfluorotetradecanoic acid (PFTeDA)	0.343	0.20	µg/kg wet	0.3172		108	65-150			
Perfluorobutanesulfonic acid (PFBS)	0.305	0.20	µg/kg wet	0.2817		108	65-145			
Perfluoropentanesulfonic acid (PFPeS)	0.311	0.20	µg/kg wet	0.2982		104	55-160			
Perfluorohexanesulfonic acid (PFHxS)	0.304	0.20	µg/kg wet	0.2893		105	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	0.332	0.20	µg/kg wet	0.3020		110	65-155			
Perfluorooctanesulfonic acid (PFOS)	0.326	0.20	µg/kg wet	0.2944		111	65-160			
Perfluorononanesulfonic acid (PFNS)	0.333	0.20	µg/kg wet	0.3045		109	55-140			
Perfluorodecanesulfonic acid (PFDS)	0.319	0.20	µg/kg wet	0.3058		104	40-155			
Perfluorododecanesulfonic acid (PFDoS)	0.347	0.20	µg/kg wet	0.3071		113	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	1.30	0.79	µg/kg wet	1.189		109	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	2.19	0.79	µg/kg wet	1.207		181	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	1.52	0.79	µg/kg wet	1.218		125	70-150			
Perfluorooctanesulfonamide (PFOSA)	0.335	0.20	µg/kg wet	0.3172		105	70-140			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	0.363	0.20	µg/kg wet	0.3172		114	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.327	0.20	µg/kg wet	0.3172		103	70-140			
N-MeFOSAA (NMeFOSAA)	0.327	0.20	µg/kg wet	0.3172		103	65-155			
N-EtFOSAA (NEtFOSAA)	0.354	0.20	µg/kg wet	0.3172		112	65-165			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	3.41	2.0	µg/kg wet	3.172		108	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	3.44	2.0	µg/kg wet	3.172		108	70-135			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402522 - EPA 1633										
MRL Check (B402522-MRL1)				Prepared & Analyzed: 04/09/25						
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.57	0.79	µg/kg wet	1.269		124	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.46	0.79	µg/kg wet	1.199		122	70-160			
9Cl-PF3ONS (F53B Minor)	1.37	0.79	µg/kg wet	1.184		115	70-150			
11Cl-PF3OUdS (F53B Major)	1.40	0.79	µg/kg wet	1.185		118	45-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	0.763	0.99	µg/kg wet	1.586		48.1	45-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	9.84	5.0	µg/kg wet	7.930		124	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	9.56	5.0	µg/kg wet	7.930		121	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.653	0.40	µg/kg wet	0.5659		115	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.727	0.40	µg/kg wet	0.6344		115	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.707	0.40	µg/kg wet	0.6344		111	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.670	0.40	µg/kg wet	0.6344		106	60-155			
Surrogate: 13C4-PFBA	*5.06*		µg/kg wet	7.930		63.8	8-130			
Surrogate: 13C5-PFPeA	*3.19*		µg/kg wet	3.965		80.5	35-130			
Surrogate: 13C5-PFHxA	*1.62*		µg/kg wet	1.983		81.5	40-130			
Surrogate: 13C4-PFHpA	*1.56*		µg/kg wet	1.983		78.6	40-130			
Surrogate: 13C8-PFOA	*1.74*		µg/kg wet	1.983		87.8	40-130			
Surrogate: 13C9-PFNA	*0.837*		µg/kg wet	0.9913		84.4	40-130			
Surrogate: 13C6-PFDA	*0.851*		µg/kg wet	0.9913		85.8	40-130			
Surrogate: 13C7-PFUnA	*0.925*		µg/kg wet	0.9913		93.3	40-130			
Surrogate: 13C2-PFDoA	*0.843*		µg/kg wet	0.9913		85.1	40-130			
Surrogate: 13C2-PFTeDA	*0.819*		µg/kg wet	0.9913		82.6	20-130			
Surrogate: 13C3-PFBS	*1.60*		µg/kg wet	1.983		80.7	40-135			
Surrogate: 13C3-PFHxS	*1.62*		µg/kg wet	1.983		81.9	40-130			
Surrogate: 13C8-PFOS	*1.68*		µg/kg wet	1.983		84.8	40-130			
Surrogate: 13C2-4:2FTS	*3.65*		µg/kg wet	3.965		92.1	40-165			
Surrogate: 13C2-6:2FTS	*3.55*		µg/kg wet	3.965		89.6	40-215			
Surrogate: 13C2-8:2FTS	*3.44*		µg/kg wet	3.965		86.7	40-275			
Surrogate: 13C8-PFOSA	*1.60*		µg/kg wet	1.983		80.5	40-130			
Surrogate: D3-NMeFOSA	*1.34*		µg/kg wet	1.983		67.8	10-130			
Surrogate: D5-NEtFOSA	*1.39*		µg/kg wet	1.983		70.1	10-130			
Surrogate: D3-NMeFOSAA	*3.30*		µg/kg wet	3.965		83.2	40-135			
Surrogate: D5-NEtFOSAA	*3.12*		µg/kg wet	3.965		78.7	40-150			
Surrogate: D7-NMeFOSE	*16.7*		µg/kg wet	19.83		84.3	20-130			
Surrogate: D9-NEtFOSE	*16.7*		µg/kg wet	19.83		84.1	15-130			
Surrogate: 13C3-HFPO-DA	*6.09*		µg/kg wet	7.930		76.8	40-130			
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.1	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.8	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.1	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.1	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.1	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.1	ng/L							
Surrogate: 13C4-PFBA	*78.1*		ng/L	78.27		99.8	5-130			
Surrogate: 13C5-PFPeA	*39.9*		ng/L	39.13		102	40-130			
Surrogate: 13C5-PFHxA	*20.4*		ng/L	19.57		104	40-130			
Surrogate: 13C4-PFHpA	*20.1*		ng/L	19.57		103	40-130			
Surrogate: 13C8-PFOA	*19.5*		ng/L	19.57		99.7	40-130			
Surrogate: 13C9-PFNA	*9.84*		ng/L	9.783		101	40-130			
Surrogate: 13C6-PFDA	*9.86*		ng/L	9.783		101	40-130			
Surrogate: 13C7-PFUnA	*10.3*		ng/L	9.783		105	30-130			
Surrogate: 13C2-PFDoA	*8.88*		ng/L	9.783		90.8	10-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Blank (B402610-BLK1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C2-PFTeDA	*8.57*		ng/L	9.783		87.6	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	19.57		103	40-135			
Surrogate: 13C3-PFHxS	*20.5*		ng/L	19.57		105	40-130			
Surrogate: 13C8-PFOS	*20.1*		ng/L	19.57		103	40-130			
Surrogate: 13C2-4:2FTS	*42.0*		ng/L	39.13		107	40-200			
Surrogate: 13C2-6:2FTS	*42.3*		ng/L	39.13		108	40-200			
Surrogate: 13C2-8:2FTS	*34.6*		ng/L	39.13		88.4	40-300			
Surrogate: 13C8-PFOSA	*18.3*		ng/L	19.57		93.8	40-130			
Surrogate: D3-NMeFOSA	*16.1*		ng/L	19.57		82.5	10-130			
Surrogate: D5-NEtFOSA	*15.7*		ng/L	19.57		80.1	10-130			
Surrogate: D3-NMeFOSAA	*38.7*		ng/L	39.13		99.0	40-170			
Surrogate: D5-NEtFOSAA	*38.3*		ng/L	39.13		97.8	25-135			
Surrogate: D7-NMeFOSE	*169*		ng/L	195.7		86.6	10-130			
Surrogate: D9-NEtFOSE	*166*		ng/L	195.7		85.0	10-130			
Surrogate: 13C3-HFPO-DA	*82.8*		ng/L	78.27		106	40-130			
LCS (B402610-BS1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	70.8	6.2	ng/L	77.97		90.8	70-140			
Perfluoropentanoic acid (PFPeA)	36.4	3.1	ng/L	38.99		93.2	65-135			
Perfluorohexanoic acid (PFHxA)	18.1	1.6	ng/L	19.49		93.1	70-145			
Perfluoroheptanoic acid (PFHpA)	18.0	1.6	ng/L	19.49		92.5	70-150			
Perfluorooctanoic acid (PFOA)	17.2	1.6	ng/L	19.49		88.2	70-150			
Perfluorononanoic acid (PFNA)	18.3	1.6	ng/L	19.49		94.1	70-150			
Perfluorodecanoic acid (PFDA)	18.2	1.6	ng/L	19.49		93.4	70-140			
Perfluoroundecanoic acid (PFUnA)	18.0	1.6	ng/L	19.49		92.4	70-145			
Perfluorododecanoic acid (PFDoA)	19.4	1.6	ng/L	19.49		99.4	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.2	1.6	ng/L	19.49		98.3	65-140			
Perfluorotetradecanoic acid (PFTeDA)	19.0	1.6	ng/L	19.49		97.3	60-140			
Perfluorobutanesulfonic acid (PFBS)	16.5	1.6	ng/L	17.31		95.2	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.5	1.6	ng/L	18.32		95.5	65-140			
Perfluorohexanesulfonic acid (PFHxS)	17.3	1.6	ng/L	17.78		97.1	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	16.9	1.6	ng/L	18.56		91.2	70-150			
Perfluorooctanesulfonic acid (PFOS)	15.7	1.6	ng/L	18.09		87.0	55-150			
Perfluorononanesulfonic acid (PFNS)	17.0	1.6	ng/L	18.71		90.9	65-145			
Perfluorodecanesulfonic acid (PFDS)	16.7	1.6	ng/L	18.79		88.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.2	1.6	ng/L	18.87		85.6	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	71.7	6.2	ng/L	73.06		98.2	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	79.8	6.2	ng/L	74.15		108	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	78.9	6.2	ng/L	74.86		105	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.3	1.6	ng/L	19.49		93.9	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	18.1	1.6	ng/L	19.49		92.7	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	17.9	1.6	ng/L	19.49		92.0	65-145			
N-MeFOSAA (NMeFOSAA)	18.8	1.6	ng/L	19.49		96.2	50-140			
N-EtFOSAA (NEtFOSAA)	16.5	1.6	ng/L	19.49		84.6	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	183	16	ng/L	194.9		93.8	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	189	16	ng/L	194.9		97.0	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	75.5	6.2	ng/L	77.97		96.9	70-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
LCS (B402610-BS1)				Prepared: 04/17/25 Analyzed: 04/18/25						
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	71.6	6.2	ng/L	73.69		97.1	65-145			
9Cl-PF3ONS (F53B Minor)	67.5	6.2	ng/L	72.75		92.8	70-155			
11Cl-PF3OUdS (F53B Major)	68.4	6.2	ng/L	72.52		94.3	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	81.6	7.8	ng/L	97.47		83.7	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	449	39	ng/L	487.3		92.2	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	453	39	ng/L	487.3		93.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	33.0	3.1	ng/L	34.78		94.9	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.3	3.1	ng/L	38.99		90.6	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	36.7	3.1	ng/L	38.99		94.0	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	38.5	3.1	ng/L	38.99		98.7	50-150			
Surrogate: 13C4-PFBA	*76.6*		ng/L	77.97		98.2	5-130			
Surrogate: 13C5-PFPeA	*37.5*		ng/L	38.99		96.3	40-130			
Surrogate: 13C5-PFHxA	*18.9*		ng/L	19.49		97.2	40-130			
Surrogate: 13C4-PFHpA	*18.6*		ng/L	19.49		95.4	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.49		95.8	40-130			
Surrogate: 13C9-PFNA	*9.40*		ng/L	9.747		96.5	40-130			
Surrogate: 13C6-PFDA	*9.60*		ng/L	9.747		98.5	40-130			
Surrogate: 13C7-PFUnA	*9.85*		ng/L	9.747		101	30-130			
Surrogate: 13C2-PFDoA	*8.78*		ng/L	9.747		90.1	10-130			
Surrogate: 13C2-PFTeDA	*8.38*		ng/L	9.747		86.0	10-130			
Surrogate: 13C3-PFBS	*19.8*		ng/L	19.49		102	40-135			
Surrogate: 13C3-PFHxS	*19.4*		ng/L	19.49		99.6	40-130			
Surrogate: 13C8-PFOS	*18.7*		ng/L	19.49		95.8	40-130			
Surrogate: 13C2-4:2FTS	*42.6*		ng/L	38.99		109	40-200			
Surrogate: 13C2-6:2FTS	*38.0*		ng/L	38.99		97.6	40-200			
Surrogate: 13C2-8:2FTS	*34.3*		ng/L	38.99		87.9	40-300			
Surrogate: 13C8-PFOSA	*16.5*		ng/L	19.49		84.6	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.49		74.5	10-130			
Surrogate: D5-NEtFOSA	*14.1*		ng/L	19.49		72.5	10-130			
Surrogate: D3-NMeFOSAA	*37.0*		ng/L	38.99		95.0	40-170			
Surrogate: D5-NEtFOSAA	*35.8*		ng/L	38.99		91.8	25-135			
Surrogate: D7-NMeFOSE	*156*		ng/L	194.9		79.9	10-130			
Surrogate: D9-NEtFOSE	*151*		ng/L	194.9		77.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.0*		ng/L	77.97		96.2	40-130			
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	10.7	6.3	ng/L	12.53		85.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.35	3.1	ng/L	6.267		85.4	65-135			
Perfluorohexanoic acid (PFHxA)	2.69	1.6	ng/L	3.134		85.9	70-145			
Perfluoroheptanoic acid (PFHpA)	2.52	1.6	ng/L	3.134		80.4	70-150			
Perfluorooctanoic acid (PFOA)	2.81	1.6	ng/L	3.134		89.7	70-150			
Perfluorononanoic acid (PFNA)	2.49	1.6	ng/L	3.134		79.3	70-150			
Perfluorodecanoic acid (PFDA)	2.81	1.6	ng/L	3.134		89.5	70-140			
Perfluoroundecanoic acid (PFUnA)	2.57	1.6	ng/L	3.134		81.9	70-145			
Perfluorododecanoic acid (PFDoA)	2.93	1.6	ng/L	3.134		93.6	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.56	1.6	ng/L	3.134		81.8	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.67	1.6	ng/L	3.134		85.2	60-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanesulfonic acid (PFBS)	2.41	1.6	ng/L	2.783		86.5	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.22	1.6	ng/L	2.946		75.5	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.39	1.6	ng/L	2.858		83.7	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.38	1.6	ng/L	2.983		79.7	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.54	1.6	ng/L	2.908		87.3	55-150			
Perfluorononanesulfonic acid (PFNS)	2.35	1.6	ng/L	3.008		78.0	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.34	1.6	ng/L	3.021		77.6	60-145			
Perfluorododecanesulfonic acid (PFDoS)	2.29	1.6	ng/L	3.033		75.5	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.0	6.3	ng/L	11.74		85.2	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	10.8	6.3	ng/L	11.92		90.5	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.6	6.3	ng/L	12.03		88.5	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.60	1.6	ng/L	3.134		83.0	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.74	1.6	ng/L	3.134		87.5	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.73	1.6	ng/L	3.134		87.0	65-145			
N-MeFOSAA (NMeFOSAA)	2.84	1.6	ng/L	3.134		90.7	50-140			
N-EtFOSAA (NEtFOSAA)	2.85	1.6	ng/L	3.134		91.0	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	25.3	16	ng/L	31.34		80.8	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	26.5	16	ng/L	31.34		84.5	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.5	6.3	ng/L	12.53		83.9	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	10.3	6.3	ng/L	11.85		87.2	65-145			
9Cl-PF3ONS (F53B Minor)	9.78	6.3	ng/L	11.69		83.7	70-155			
11Cl-PF3OUdS (F53B Major)	9.81	6.3	ng/L	11.71		83.8	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	10.9	7.8	ng/L	15.67		69.5	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	63.0	39	ng/L	78.34		80.4	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	68.8	39	ng/L	78.34		87.9	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.73	3.1	ng/L	5.590		84.7	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.90	3.1	ng/L	6.267		78.2	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.50	3.1	ng/L	6.267		87.7	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.94	3.1	ng/L	6.267		78.8	50-150			
Surrogate: 13C4-PFBA	*75.8*		ng/L	78.34		96.8	5-130			
Surrogate: 13C5-PFPeA	*38.5*		ng/L	39.17		98.3	40-130			
Surrogate: 13C5-PFHxA	*20.0*		ng/L	19.59		102	40-130			
Surrogate: 13C4-PFHpA	*19.5*		ng/L	19.59		99.6	40-130			
Surrogate: 13C8-PFOA	*18.8*		ng/L	19.59		96.2	40-130			
Surrogate: 13C9-PFNA	*9.35*		ng/L	9.793		95.5	40-130			
Surrogate: 13C6-PFDA	*9.00*		ng/L	9.793		91.9	40-130			
Surrogate: 13C7-PFUnA	*9.61*		ng/L	9.793		98.1	30-130			
Surrogate: 13C2-PFDoA	*8.56*		ng/L	9.793		87.4	10-130			
Surrogate: 13C2-PFTeDA	*8.09*		ng/L	9.793		82.6	10-130			
Surrogate: 13C3-PFBS	*20.1*		ng/L	19.59		103	40-135			
Surrogate: 13C3-PFHxS	*20.4*		ng/L	19.59		104	40-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
MRL Check (B402610-MRL1)				Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C8-PFOS	*19.5*		ng/L	19.59		99.5	40-130			
Surrogate: 13C2-4:2FTS	*43.0*		ng/L	39.17		110	40-200			
Surrogate: 13C2-6:2FTS	*40.7*		ng/L	39.17		104	40-200			
Surrogate: 13C2-8:2FTS	*38.0*		ng/L	39.17		97.0	40-300			
Surrogate: 13C8-PFOSA	*17.3*		ng/L	19.59		88.5	40-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	19.59		73.8	10-130			
Surrogate: D5-NEtFOSA	*14.2*		ng/L	19.59		72.3	10-130			
Surrogate: D3-NMeFOSAA	*38.8*		ng/L	39.17		98.9	40-170			
Surrogate: D5-NEtFOSAA	*36.2*		ng/L	39.17		92.4	25-135			
Surrogate: D7-NMeFOSE	*157*		ng/L	195.9		80.1	10-130			
Surrogate: D9-NEtFOSE	*151*		ng/L	195.9		77.3	10-130			
Surrogate: 13C3-HFPO-DA	*78.1*		ng/L	78.34		99.6	40-130			
Matrix Spike (B402610-MS1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	74.9	6.5	ng/L	80.67	1.54	90.9	70-140			
Perfluoropentanoic acid (PFPeA)	37.0	3.2	ng/L	40.33	0.655	90.1	65-135			
Perfluorohexanoic acid (PFHxA)	19.6	1.6	ng/L	20.17	0.883	92.7	70-145			
Perfluoroheptanoic acid (PFHpA)	19.2	1.6	ng/L	20.17	0.301	93.6	70-150			
Perfluorooctanoic acid (PFOA)	19.0	1.6	ng/L	20.17	1.25	87.9	70-150			
Perfluorononanoic acid (PFNA)	18.9	1.6	ng/L	20.17	ND	93.6	70-150			
Perfluorodecanoic acid (PFDA)	18.2	1.6	ng/L	20.17	ND	90.5	70-140			
Perfluoroundecanoic acid (PFUnA)	18.9	1.6	ng/L	20.17	ND	93.7	70-145			
Perfluorododecanoic acid (PFDoA)	20.2	1.6	ng/L	20.17	ND	100	70-140			
Perfluorotridecanoic acid (PFTrDA)	20.4	1.6	ng/L	20.17	ND	101	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.0	1.6	ng/L	20.17	ND	99.4	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.3	1.6	ng/L	17.91	0.468	94.2	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.6	1.6	ng/L	18.96	ND	93.0	65-140			
Perfluorohexanesulfonic acid (PFHxS)	22.4	1.6	ng/L	18.39	5.49	91.8	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	18.2	1.6	ng/L	19.20	ND	94.8	70-150			
Perfluorooctanesulfonic acid (PFOS)	23.9	1.6	ng/L	18.71	7.37	88.2	55-150			
Perfluorononanesulfonic acid (PFNS)	17.5	1.6	ng/L	19.36	ND	90.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	16.3	1.6	ng/L	19.44	ND	83.8	60-145			
Perfluorododecanesulfonic acid (PFDoS)	16.0	1.6	ng/L	19.52	ND	82.1	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.9	6.5	ng/L	75.58	ND	106	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76.7	6.5	ng/L	76.71	ND	99.9	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	79.7	6.5	ng/L	77.44	ND	103	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.7	1.6	ng/L	20.17	ND	92.8	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	19.0	1.6	ng/L	20.17	ND	94.3	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.2	1.6	ng/L	20.17	ND	90.4	65-145			
N-MeFOSAA (NMeFOSAA)	17.8	1.6	ng/L	20.17	ND	88.2	50-140			
N-EtFOSAA (NEtFOSAA)	18.9	1.6	ng/L	20.17	ND	93.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	190	16	ng/L	201.7	ND	94.0	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	196	16	ng/L	201.7	ND	97.4	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	79.5	6.5	ng/L	80.67	ND	98.6	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	70.9	6.5	ng/L	76.23	ND	93.0	65-145			
9Cl-PF3ONS (F53B Minor)	70.4	6.5	ng/L	75.26	ND	93.5	70-155			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike (B402610-MS1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
11Cl-PF3OUdS (F53B Major)	67.1	6.5	ng/L	75.02	ND	89.5	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	84.3	8.1	ng/L	100.8	ND	83.6	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	463	40	ng/L	504.2	ND	91.8	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	491	40	ng/L	504.2	ND	97.4	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	34.5	3.2	ng/L	35.98	ND	96.0	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	37.2	3.2	ng/L	40.33	ND	92.1	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	37.9	3.2	ng/L	40.33	ND	93.9	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	38.2	3.2	ng/L	40.33	ND	94.6	50-150			
Surrogate: 13C4-PFBA	*75.5*		ng/L	80.67		93.6	5-130			
Surrogate: 13C5-PFPeA	*36.1*		ng/L	40.33		89.5	40-130			
Surrogate: 13C5-PFHxA	*18.8*		ng/L	20.17		93.3	40-130			
Surrogate: 13C4-PFHpA	*19.1*		ng/L	20.17		94.8	40-130			
Surrogate: 13C8-PFOA	*19.3*		ng/L	20.17		95.5	40-130			
Surrogate: 13C9-PFNA	*9.45*		ng/L	10.08		93.7	40-130			
Surrogate: 13C6-PFDA	*9.22*		ng/L	10.08		91.5	40-130			
Surrogate: 13C7-PFUnA	*8.98*		ng/L	10.08		89.0	30-130			
Surrogate: 13C2-PFDoA	*7.66*		ng/L	10.08		75.9	10-130			
Surrogate: 13C2-PFTeDA	*7.35*		ng/L	10.08		72.9	10-130			
Surrogate: 13C3-PFBS	*20.8*		ng/L	20.17		103	40-135			
Surrogate: 13C3-PFHxS	*20.1*		ng/L	20.17		99.7	40-130			
Surrogate: 13C8-PFOS	*18.5*		ng/L	20.17		91.7	40-130			
Surrogate: 13C2-4:2FTS	*41.0*		ng/L	40.33		102	40-200			
Surrogate: 13C2-6:2FTS	*36.6*		ng/L	40.33		90.6	40-200			
Surrogate: 13C2-8:2FTS	*32.2*		ng/L	40.33		79.9	40-300			
Surrogate: 13C8-PFOSA	*16.4*		ng/L	20.17		81.4	40-130			
Surrogate: D3-NMeFOSA	*12.4*		ng/L	20.17		61.3	10-130			
Surrogate: D5-NEtFOSA	*12.4*		ng/L	20.17		61.5	10-130			
Surrogate: D3-NMeFOSAA	*35.7*		ng/L	40.33		88.4	40-170			
Surrogate: D5-NEtFOSAA	*33.8*		ng/L	40.33		83.8	25-135			
Surrogate: D7-NMeFOSE	*133*		ng/L	201.7		66.2	10-130			
Surrogate: D9-NEtFOSE	*128*		ng/L	201.7		63.6	10-130			
Surrogate: 13C3-HFPO-DA	*72.9*		ng/L	80.67		90.4	40-130			
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluorobutanoic acid (PFBA)	73.3	6.3	ng/L	78.42	1.54	91.5	70-140	2.13	25	
Perfluoropentanoic acid (PFPeA)	36.1	3.1	ng/L	39.21	0.655	90.3	65-135	2.59	25	
Perfluorohexanoic acid (PFHxA)	19.3	1.6	ng/L	19.61	0.883	94.1	70-145	1.27	25	
Perfluoroheptanoic acid (PFHpA)	18.9	1.6	ng/L	19.61	0.301	95.0	70-150	1.28	25	
Perfluorooctanoic acid (PFOA)	18.3	1.6	ng/L	19.61	1.25	87.1	70-150	3.51	25	
Perfluorononanoic acid (PFNA)	18.4	1.6	ng/L	19.61	ND	93.7	70-150	2.64	25	
Perfluorodecanoic acid (PFDA)	18.6	1.6	ng/L	19.61	ND	94.9	70-140	1.92	25	
Perfluoroundecanoic acid (PFUnA)	18.7	1.6	ng/L	19.61	ND	95.5	70-145	0.942	25	
Perfluorododecanoic acid (PFDoA)	18.6	1.6	ng/L	19.61	ND	94.8	70-140	8.54	25	
Perfluorotridecanoic acid (PFTrDA)	18.4	1.6	ng/L	19.61	ND	93.7	65-140	10.5	25	
Perfluorotetradecanoic acid (PFTeDA)	19.3	1.6	ng/L	19.61	ND	98.5	60-140	3.74	25	
Perfluorobutanesulfonic acid (PFBS)	16.9	1.6	ng/L	17.41	0.468	94.6	60-145	2.39	25	
Perfluoropentanesulfonic acid (PFPeS)	17.1	1.6	ng/L	18.43	ND	92.7	65-140	3.11	25	
Perfluorohexanesulfonic acid (PFHxS)	23.5	1.6	ng/L	17.88	5.49	101	65-145	4.95	25	

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Perfluoroheptanesulfonic acid (PFHpS)	17.3	1.6	ng/L	18.66	ND	92.9	70-150	4.86	25	
Perfluorooctanesulfonic acid (PFOS)	23.0	1.6	ng/L	18.19	7.37	86.1	55-150	3.62	25	
Perfluorononanesulfonic acid (PFNS)	16.6	1.6	ng/L	18.82	ND	88.2	65-145	5.46	25	
Perfluorodecanesulfonic acid (PFDS)	14.9	1.6	ng/L	18.90	ND	78.8	60-145	9.03	25	
Perfluorododecanesulfonic acid (PFDoS)	15.0	1.6	ng/L	18.98	ND	78.9	50-145	6.70	25	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	75.3	6.3	ng/L	73.48	ND	102	70-145	5.89	25	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	75.9	6.3	ng/L	74.58	ND	102	65-155	1.04	25	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	79.4	6.3	ng/L	75.29	ND	105	60-150	0.374	25	
Perfluorooctanesulfonamide (PFOSA)	18.3	1.6	ng/L	19.61	ND	93.4	70-145	2.15	25	
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	17.6	1.6	ng/L	19.61	ND	89.9	60-150	7.62	25	
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	18.3	1.6	ng/L	19.61	ND	93.3	65-145	0.369	25	
N-MeFOSAA (NMeFOSAA)	16.5	1.6	ng/L	19.61	ND	84.3	50-140	7.30	25	
N-EtFOSAA (NEtFOSAA)	18.1	1.6	ng/L	19.61	ND	92.4	70-145	4.21	25	
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	188	16	ng/L	196.1	ND	96.0	70-145	0.728	25	
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	184	16	ng/L	196.1	ND	93.9	70-135	6.49	25	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	75.5	6.3	ng/L	78.42	ND	96.2	70-140	5.28	25	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	69.9	6.3	ng/L	74.11	ND	94.3	65-145	1.35	25	
9Cl-PF3ONS (F53B Minor)	66.7	6.3	ng/L	73.17	ND	91.2	70-155	5.30	25	
11Cl-PF3OUdS (F53B Major)	65.2	6.3	ng/L	72.93	ND	89.4	55-160	2.86	25	
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	79.8	7.8	ng/L	98.03	ND	81.4	65-130	5.57	25	
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	464	39	ng/L	490.1	ND	94.6	70-135	0.211	25	
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	473	39	ng/L	490.1	ND	96.5	50-145	3.72	25	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	35.2	3.1	ng/L	34.98	ND	101	70-140	1.81	25	
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.7	3.1	ng/L	39.21	ND	91.0	55-140	4.10	25	
Perfluoro-4-methoxybutanoic acid (PFMBA)	36.8	3.1	ng/L	39.21	ND	93.8	60-150	2.88	25	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	37.6	3.1	ng/L	39.21	ND	95.9	50-150	1.46	25	
Surrogate: 13C4-PFBA	*76.0*		ng/L	78.42		96.9	5-130			
Surrogate: 13C5-PFPeA	*37.6*		ng/L	39.21		95.8	40-130			
Surrogate: 13C5-PFHxA	*19.0*		ng/L	19.61		96.7	40-130			
Surrogate: 13C4-PFHpA	*19.7*		ng/L	19.61		100	40-130			
Surrogate: 13C8-PFOA	*19.2*		ng/L	19.61		97.9	40-130			
Surrogate: 13C9-PFNA	*9.48*		ng/L	9.803		96.7	40-130			
Surrogate: 13C6-PFDA	*9.52*		ng/L	9.803		97.1	40-130			
Surrogate: 13C7-PFUnA	*8.95*		ng/L	9.803		91.3	30-130			
Surrogate: 13C2-PFDoA	*8.72*		ng/L	9.803		88.9	10-130			
Surrogate: 13C2-PFTeDA	*8.04*		ng/L	9.803		82.0	10-130			
Surrogate: 13C3-PFBS	*20.5*		ng/L	19.61		105	40-135			
Surrogate: 13C3-PFHxS	*19.5*		ng/L	19.61		99.7	40-130			
Surrogate: 13C8-PFOS	*20.0*		ng/L	19.61		102	40-130			
Surrogate: 13C2-4:2FTS	*37.6*		ng/L	39.21		95.8	40-200			
Surrogate: 13C2-6:2FTS	*33.9*		ng/L	39.21		86.3	40-200			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402610 - EPA 1633										
Matrix Spike Dup (B402610-MSD1)	**Source: 25D0377-03RE1**			Prepared: 04/17/25 Analyzed: 04/18/25						
Surrogate: 13C2-8:2FTS	*32.4*		ng/L	39.21		82.6	40-300			
Surrogate: 13C8-PFOSA	*17.6*		ng/L	19.61		89.7	40-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	19.61		71.9	10-130			
Surrogate: D5-NEtFOSA	*13.2*		ng/L	19.61		67.2	10-130			
Surrogate: D3-NMeFOSAA	*35.4*		ng/L	39.21		90.3	40-170			
Surrogate: D5-NEtFOSAA	*32.3*		ng/L	39.21		82.5	25-135			
Surrogate: D7-NMeFOSE	*142*		ng/L	196.1		72.5	10-130			
Surrogate: D9-NEtFOSE	*141*		ng/L	196.1		72.0	10-130			
Surrogate: 13C3-HFPO-DA	*76.8*		ng/L	78.42		98.0	40-130			
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	ND	6.3	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	3.2	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.6	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.6	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.6	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.6	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.6	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.6	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.6	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.6	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	1.6	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.6	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.6	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.6	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.6	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.6	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.6	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.6	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	1.6	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	6.3	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	6.3	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	1.6	ng/L							
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	1.6	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.6	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.6	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.6	ng/L							
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	16	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	16	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	6.3	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	6.3	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	6.3	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	6.3	ng/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
Blank (B402935-BLK1)				Prepared: 04/14/25 Analyzed: 04/15/25						
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	7.9	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	39	ng/L							L-03
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	39	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.2	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	3.2	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	3.2	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.2	ng/L							
Surrogate: 13C4-PFBA	*66.5*		ng/L	78.94		84.2	5-130			
Surrogate: 13C5-PFPeA	*33.5*		ng/L	39.47		84.8	40-130			
Surrogate: 13C5-PFHxA	*16.9*		ng/L	19.73		85.9	40-130			
Surrogate: 13C4-PFHpA	*15.8*		ng/L	19.73		80.1	40-130			
Surrogate: 13C8-PFOA	*18.0*		ng/L	19.73		91.3	40-130			
Surrogate: 13C9-PFNA	*8.23*		ng/L	9.867		83.4	40-130			
Surrogate: 13C6-PFDA	*8.37*		ng/L	9.867		84.9	40-130			
Surrogate: 13C7-PFUnA	*8.42*		ng/L	9.867		85.3	30-130			
Surrogate: 13C2-PFDoA	*7.24*		ng/L	9.867		73.4	10-130			
Surrogate: 13C2-PFTeDA	*6.41*		ng/L	9.867		65.0	10-130			
Surrogate: 13C3-PFBS	*15.3*		ng/L	19.73		77.7	40-135			
Surrogate: 13C3-PFHxS	*17.0*		ng/L	19.73		86.2	40-130			
Surrogate: 13C8-PFOS	*16.9*		ng/L	19.73		85.7	40-130			
Surrogate: 13C2-4:2FTS	*35.6*		ng/L	39.47		90.3	40-200			
Surrogate: 13C2-6:2FTS	*37.3*		ng/L	39.47		94.6	40-200			
Surrogate: 13C2-8:2FTS	*30.4*		ng/L	39.47		77.1	40-300			
Surrogate: 13C8-PFOSA	*13.4*		ng/L	19.73		67.8	40-130			
Surrogate: D3-NMeFOSA	*12.7*		ng/L	19.73		64.2	10-130			
Surrogate: D5-NEtFOSA	*12.0*		ng/L	19.73		61.1	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.47		82.6	40-170			
Surrogate: D5-NEtFOSAA	*31.0*		ng/L	39.47		78.5	25-135			
Surrogate: D7-NMeFOSE	*111*		ng/L	197.3		56.2	10-130			
Surrogate: D9-NEtFOSE	*105*		ng/L	197.3		53.4	10-130			
Surrogate: 13C3-HFPO-DA	*75.3*		ng/L	78.94		95.4	40-130			
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	75.8	6.3	ng/L	79.00		95.9	70-140			
Perfluoropentanoic acid (PFPeA)	39.3	3.2	ng/L	39.50		99.4	65-135			
Perfluorohexanoic acid (PFHxA)	19.3	1.6	ng/L	19.75		97.7	70-145			
Perfluoroheptanoic acid (PFHpA)	18.9	1.6	ng/L	19.75		95.5	70-150			
Perfluorooctanoic acid (PFOA)	17.7	1.6	ng/L	19.75		89.6	70-150			
Perfluorononanoic acid (PFNA)	19.4	1.6	ng/L	19.75		98.4	70-150			
Perfluorodecanoic acid (PFDA)	19.5	1.6	ng/L	19.75		98.8	70-140			
Perfluoroundecanoic acid (PFUnA)	19.8	1.6	ng/L	19.75		100	70-145			
Perfluorododecanoic acid (PFDoA)	19.6	1.6	ng/L	19.75		99.2	70-140			
Perfluorotridecanoic acid (PFTrDA)	19.2	1.6	ng/L	19.75		97.4	65-140			
Perfluorotetradecanoic acid (PFTeDA)	20.4	1.6	ng/L	19.75		103	60-140			
Perfluorobutanesulfonic acid (PFBS)	17.9	1.6	ng/L	17.54		102	60-145			
Perfluoropentanesulfonic acid (PFPeS)	17.4	1.6	ng/L	18.56		93.7	65-140			
Perfluorohexanesulfonic acid (PFHxS)	15.8	1.6	ng/L	18.01		87.6	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	19.5	1.6	ng/L	18.80		104	70-150			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorooctanesulfonic acid (PFOS)	17.8	1.6	ng/L	18.33		97.1	55-150			
Perfluorononanesulfonic acid (PFNS)	18.9	1.6	ng/L	18.96		99.6	65-145			
Perfluorodecanesulfonic acid (PFDS)	17.8	1.6	ng/L	19.04		93.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	15.6	1.6	ng/L	19.12		81.4	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.5	6.3	ng/L	74.02		107	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	78.2	6.3	ng/L	75.13		104	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	83.2	6.3	ng/L	75.84		110	60-150			
Perfluorooctanesulfonamide (PFOSA)	18.1	1.6	ng/L	19.75		91.7	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	20.1	1.6	ng/L	19.75		102	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.0	1.6	ng/L	19.75		106	65-145			
N-MeFOSAA (NMeFOSAA)	17.8	1.6	ng/L	19.75		90.2	50-140			
N-EtFOSAA (NEtFOSAA)	18.3	1.6	ng/L	19.75		92.7	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	197	16	ng/L	197.5		99.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	201	16	ng/L	197.5		102	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	80.0	6.3	ng/L	79.00		101	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	79.4	6.3	ng/L	74.65		106	65-145			
9Cl-PF3ONS (F53B Minor)	74.3	6.3	ng/L	73.70		101	70-155			
11Cl-PF3OUdS (F53B Major)	68.0	6.3	ng/L	73.47		92.6	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	73.3	7.9	ng/L	98.75		74.3	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	379	39	ng/L	493.7		76.7	70-135			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	405	39	ng/L	493.7		82.0	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	37.2	3.2	ng/L	35.23		106	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	35.1	3.2	ng/L	39.50		88.8	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	39.3	3.2	ng/L	39.50		99.5	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.8	3.2	ng/L	39.50		113	50-150			
Surrogate: 13C4-PFBA	*62.3*		ng/L	79.00		78.9	5-130			
Surrogate: 13C5-PFPeA	*30.6*		ng/L	39.50		77.5	40-130			
Surrogate: 13C5-PFHxA	*15.4*		ng/L	19.75		78.0	40-130			
Surrogate: 13C4-PFHpA	*14.3*		ng/L	19.75		72.2	40-130			
Surrogate: 13C8-PFOA	*16.6*		ng/L	19.75		84.0	40-130			
Surrogate: 13C9-PFNA	*7.74*		ng/L	9.875		78.4	40-130			
Surrogate: 13C6-PFDA	*7.73*		ng/L	9.875		78.2	40-130			
Surrogate: 13C7-PFUnA	*7.69*		ng/L	9.875		77.9	30-130			
Surrogate: 13C2-PFDoA	*6.93*		ng/L	9.875		70.2	10-130			
Surrogate: 13C2-PFTeDA	*6.22*		ng/L	9.875		63.0	10-130			
Surrogate: 13C3-PFBS	*14.1*		ng/L	19.75		71.4	40-135			
Surrogate: 13C3-PFHxS	*16.0*		ng/L	19.75		81.2	40-130			
Surrogate: 13C8-PFOS	*15.1*		ng/L	19.75		76.3	40-130			
Surrogate: 13C2-4:2FTS	*32.5*		ng/L	39.50		82.3	40-200			
Surrogate: 13C2-6:2FTS	*34.6*		ng/L	39.50		87.6	40-200			
Surrogate: 13C2-8:2FTS	*29.6*		ng/L	39.50		74.8	40-300			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
LCS (B402935-BS1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Surrogate: 13C8-PFOSA	*12.5*		ng/L	19.75		63.4	40-130			
Surrogate: D3-NMeFOSA	*11.2*		ng/L	19.75		56.7	10-130			
Surrogate: D5-NEtFOSA	*10.8*		ng/L	19.75		54.4	10-130			
Surrogate: D3-NMeFOSAA	*32.6*		ng/L	39.50		82.4	40-170			
Surrogate: D5-NEtFOSAA	*29.8*		ng/L	39.50		75.5	25-135			
Surrogate: D7-NMeFOSE	*107*		ng/L	197.5		54.1	10-130			
Surrogate: D9-NEtFOSE	*103*		ng/L	197.5		52.1	10-130			
Surrogate: 13C3-HFPO-DA	*66.2*		ng/L	79.00		83.8	40-130			
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
Perfluorobutanoic acid (PFBA)	11.4	6.3	ng/L	12.63		90.2	70-140			
Perfluoropentanoic acid (PFPeA)	5.54	3.2	ng/L	6.316		87.8	65-135			
Perfluorohexanoic acid (PFHxA)	2.54	1.6	ng/L	3.158		80.5	70-145			
Perfluoroheptanoic acid (PFHpA)	2.56	1.6	ng/L	3.158		81.1	70-150			
Perfluorooctanoic acid (PFOA)	3.06	1.6	ng/L	3.158		96.8	70-150			
Perfluorononanoic acid (PFNA)	2.70	1.6	ng/L	3.158		85.3	70-150			
Perfluorodecanoic acid (PFDA)	2.87	1.6	ng/L	3.158		91.0	70-140			
Perfluoroundecanoic acid (PFUnA)	2.77	1.6	ng/L	3.158		87.6	70-145			
Perfluorododecanoic acid (PFDoA)	2.83	1.6	ng/L	3.158		89.5	70-140			
Perfluorotridecanoic acid (PFTrDA)	2.72	1.6	ng/L	3.158		86.0	65-140			
Perfluorotetradecanoic acid (PFTeDA)	2.89	1.6	ng/L	3.158		91.5	60-140			
Perfluorobutanesulfonic acid (PFBS)	2.34	1.6	ng/L	2.804		83.6	60-145			
Perfluoropentanesulfonic acid (PFPeS)	2.18	1.6	ng/L	2.969		73.3	65-140			
Perfluorohexanesulfonic acid (PFHxS)	2.26	1.6	ng/L	2.880		78.5	65-145			
Perfluoroheptanesulfonic acid (PFHpS)	2.57	1.6	ng/L	3.007		85.4	70-150			
Perfluorooctanesulfonic acid (PFOS)	2.51	1.6	ng/L	2.931		85.6	55-150			
Perfluorononanesulfonic acid (PFNS)	2.39	1.6	ng/L	3.032		79.0	65-145			
Perfluorodecanesulfonic acid (PFDS)	2.48	1.6	ng/L	3.044		81.3	60-145			
Perfluorododecanesulfonic acid (PFDoS)	1.85	1.6	ng/L	3.057		60.5	50-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.88	6.3	ng/L	11.84		83.5	70-145			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	11.2	6.3	ng/L	12.01		93.1	65-155			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	10.8	6.3	ng/L	12.13		89.1	60-150			
Perfluorooctanesulfonamide (PFOSA)	2.63	1.6	ng/L	3.158		83.4	70-145			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	2.87	1.6	ng/L	3.158		91.0	60-150			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.99	1.6	ng/L	3.158		94.5	65-145			
N-MeFOSAA (NMeFOSAA)	2.82	1.6	ng/L	3.158		89.3	50-140			
N-EtFOSAA (NEtFOSAA)	2.52	1.6	ng/L	3.158		79.9	70-145			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	27.1	16	ng/L	31.58		85.9	70-145			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	27.5	16	ng/L	31.58		86.9	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.6	6.3	ng/L	12.63		84.0	70-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.5	6.3	ng/L	11.94		95.9	65-145			
9Cl-PF3ONS (F53B Minor)	10.1	6.3	ng/L	11.79		85.8	70-155			
11Cl-PF3OUdS (F53B Major)	9.25	6.3	ng/L	11.80		78.4	55-160			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	10.3	7.9	ng/L	15.79		65.5	65-130			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	51.0	39	ng/L	78.95		**64.6**	* 70-135			L-03

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B402935 - EPA 1633										
MRL Check (B402935-MRL1)				Prepared: 04/14/25 Analyzed: 04/15/25						
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	55.4	39	ng/L	78.95		70.1	50-145			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.21	3.2	ng/L	5.634		92.5	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.96	3.2	ng/L	6.316		78.5	55-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	5.41	3.2	ng/L	6.316		85.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.25	3.2	ng/L	6.316		99.0	50-150			
Surrogate: 13C4-PFBA	*69.3*		ng/L	78.95		87.8	5-130			
Surrogate: 13C5-PFPeA	*36.1*		ng/L	39.48		91.5	40-130			
Surrogate: 13C5-PFHxA	*18.1*		ng/L	19.74		91.8	40-130			
Surrogate: 13C4-PFHpA	*16.8*		ng/L	19.74		85.1	40-130			
Surrogate: 13C8-PFOA	*18.7*		ng/L	19.74		94.9	40-130			
Surrogate: 13C9-PFNA	*8.62*		ng/L	9.869		87.4	40-130			
Surrogate: 13C6-PFDA	*8.03*		ng/L	9.869		81.3	40-130			
Surrogate: 13C7-PFUnA	*7.77*		ng/L	9.869		78.8	30-130			
Surrogate: 13C2-PFDoA	*7.21*		ng/L	9.869		73.1	10-130			
Surrogate: 13C2-PFTeDA	*6.32*		ng/L	9.869		64.0	10-130			
Surrogate: 13C3-PFBS	*15.7*		ng/L	19.74		79.7	40-135			
Surrogate: 13C3-PFHxS	*17.3*		ng/L	19.74		87.8	40-130			
Surrogate: 13C8-PFOS	*16.7*		ng/L	19.74		84.4	40-130			
Surrogate: 13C2-4:2FTS	*36.9*		ng/L	39.48		93.4	40-200			
Surrogate: 13C2-6:2FTS	*36.1*		ng/L	39.48		91.6	40-200			
Surrogate: 13C2-8:2FTS	*33.0*		ng/L	39.48		83.5	40-300			
Surrogate: 13C8-PFOSA	*13.2*		ng/L	19.74		67.0	40-130			
Surrogate: D3-NMeFOSA	*13.3*		ng/L	19.74		67.2	10-130			
Surrogate: D5-NEtFOSA	*12.3*		ng/L	19.74		62.1	10-130			
Surrogate: D3-NMeFOSAA	*33.7*		ng/L	39.48		85.3	40-170			
Surrogate: D5-NEtFOSAA	*32.4*		ng/L	39.48		82.1	25-135			
Surrogate: D7-NMeFOSE	*115*		ng/L	197.4		58.2	10-130			
Surrogate: D9-NEtFOSE	*111*		ng/L	197.4		56.4	10-130			
Surrogate: 13C3-HFPO-DA	*80.1*		ng/L	78.95		102	40-130			

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D	Sample analyzed at a dilution.
D-01	Sample extracted/prepared at a dilution due to sample matrix.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Soil	
Perfluorobutanoic acid (PFBA)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanoic acid (PFNA)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,WV,PA,VA,NJ,LA
EPA 1633 in Water	
Perfluorobutanoic acid (PFBA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Water	
Perfluorononanoic acid (PFNA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	CT,NH-P,WV,PA,VA,NJ,LA
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Perfluorododecanesulfonic acid (PFDoS)	CT,NH-P,WV,PA,VA,NJ,LA
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1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	CT,NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	CT,NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	CT,NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	CT,NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2026
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VA	Commonwealth of Virginia	460217	12/14/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025
LA	State of Louisiana Dept. of Env. Quality Office of Env. Services	05130	06/30/2025

25D0377

http://www.pacelabs.com

Doc # 381 Rev 2_06262019

Pace

Phone: 413-525-2332
Fax: 413-525-6405

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Company Name:	Michael Baker Int'l
Address:	100 Airside Dr 15108
Phone:	412-269-6300
Project Name:	Saegertown PFAS
Project Location:	Saegertown, PA
Project Number:	189432
Project Manager:	Chris Kupfer
Con-Test Quote Name/Number:	513140
Invoice Recipient:	MBF
Sampled By:	B. Mikula / A. Lacy

Requested Turnaround Time

7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☒ Due Date:

Rush Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: ckupfer@mbakercorp.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAs EPA 1633
1	BMW-2	4/2/25	1315	G	GW				2			X
2	BMW-3	"	1615	"	"				"			"
3	BMW-10		1620									
	BMW-10MS		1620									
	BMW-10MSD		1620									
4	FB-0425		1650		W				1			
5	PW-1	4/3/25	0940		GW				2			
	PW-1MS		0940						2			
	PW-1MSD		0940						2			
6	PW-2		1030						2			

[2] Preservation Code

Total Number Of:

VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 4/3/25 1330
Received by: (signature) Romeo Mack/pace	Date/Time: 4/3/25 1339
Relinquished by: (signature) Romeo Mack/pace	Date/Time: 4/3/25
Received by: (signature) Buffalo SLC	Date/Time: 4/3/25
Relinquished by: (signature) Russell B Bailey	Date/Time: 4/3/25 16:37
Received by: (signature)	Date/Time: 4/3 23:30
Relinquished by: (signature)	Date/Time: 4/4 0230
Received by: (signature)	Date/Time: 4/4/25 0200

Client Comments:

Project Entity
Government ☒ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

25D0377

ALL SHADED AREAS are for LAB USE ONLY

Company: Michael Baker Int'l	Billing Information:
Address: 100 Airside Dr 15108	
Report To: Chris Kupfer	Email To: ckupfer@mbakerintl.com
Copy To:	Site Collection Info/Address: Saegertown
Customer Project Name/Number: Saegertown PFAS 189432	State: PA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 412-269-6300 Email:	Site/Facility ID #: Saegertown PFAS Site
Collected By (print): B. Mikula / A. Lavy	Purchase Order #: Quote #: 513140
Collected By (signature):	Turnaround Date Required: PFAS 15 Day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Compliance Monitoring? [ ] Yes [X] No	DW PWS ID #: DW Location Code:
Immediately Packed on Ice: [X] Yes [ ] No	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Container Preservative Type **: 4

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses: PFAAs EPA 1633

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	PFAAs EPA 1633
7	PW-6	GW	G	4/3/25	1055					X
8	PW-6 Dup	GW	G	4/3/25	1100					X
9	PW-7	GW	G	4/3/25	1120					X
10	EB-02-0425	W	G	4/3/25	1150					X
11	FDW-AB-0425	GW	C	4/3/25	1230					X
12	IDW-SOIL-0425	S	C	4/3/25	1240					X

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2667182

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: ____oC
Cooler 1 Therm Corr. Factor: ____oC
Cooler 1 Corrected Temp: ____oC
Comments:

	Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
1	MBI	4/3/25 1330	Pace/Courier	4/3/25 1330
2	Pace/Courier	4/3/25	Buffalo SC	4/3/25
3		4-3-25 16:37		4/3 23:30

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 2 of: 2

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client: Michael Baker Intl

Project: Saegertown PFAS

MCP/RCP Required: MA

Deliverable Package Requirement: MA

Location: Saegertown, PA

PWSID# (When Applicable): MA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 4/4/25 1200

Back-Sheet By / Date / Time: LA 4/4/25 1425

Temperature Method: Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp ✓ < 6° C Actual Temperature: 4.9

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL		7	1	6	-	8	2	+				+									
Sulfuric																						
Unpreserved	250mL													-								
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Qualtrax ID: 120836

Page 2 of 2

Pace Altoona
2019 Ninth Avenue
Altoona, PA 16602
(814) 946-4306

EPA Lab ID: PA01737

NELAP
PA 07-00062
VA 460212

State Certifications:
MD 275
WV WW/SCM 364
WV DW 9963 CM

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Michael Baker Intl.
100 Airside Dr.
Coraopolis, PA 15108

Project: Saegertown PFAS Site

Project Number: 189432

Reported:

Project Manager: Christopher Kupfer

04/21/25 17:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
IDW-AQ-0425	AZD1298-01	Water	Composite	04/03/25 12:30	04/07/25 09:10
IDW-SOIL-0425	AZD1298-02	Solid	Composite	04/03/25 12:40	04/07/25 09:10

Pace Analytical Services, LLC

Reviewed and Submitted by:

John R McNair Jr
Project Manager

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Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Analyses to be performed immediately upon sampling. See Definition indicated by: #								
# pH @ 19.68°C	7.72			pH Units	04/09/25 12:05	SM 4500-H+B-11	ztb	
Conventional Chemistry Parameters by SM/EPA Methods								
% Solids	<0.100		0.100	%	04/07/25 14:43	SM 2540 G-11	ers	
Total Dissolved Solids	368		20.0	mg/l	04/08/25 16:02	SM 2540C-15	ark	
Specific Gravity	1.001		0.300	-	04/08/25 16:05	SM 2710F	ers	
Metals by EPA 245.1								
Mercury	<0.000200		0.000200	mg/l	04/09/25 10:21	EPA 245.1/3.0	RLG	
Metals by Prep Method EPA 200.2								
Silver	<0.00400		0.00400	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Arsenic	<0.00800		0.00800	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Barium	0.0624		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Cadmium	<0.00400		0.00400	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Chromium	<0.00500		0.00500	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Copper	<0.0100		0.0100	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Nickel	<0.0500		0.0500	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Lead	<0.00800		0.00800	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	

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Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Metals by Prep Method EPA 200.2								
Selenium	<0.0200		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Zinc	<0.0200		0.0200	mg/l	04/09/25 13:13	EPA 200.7/4.4	rjd	
Physical Parameters by APHA/ASTM/EPA Methods								
Ignitability by Flashpoint	>94.1 °C		15.0	°C	04/11/25 21:10	EPA 1010 -	dmm	G1
Reactive Cyanide	<0.200		0.200	mg/l	04/14/25 15:10	EPA 7.3.3.2(CN)/9014	jtd	
Reactive Sulfide	<1.00		1.00	mg/l	04/14/25 10:40	EPA 7.3.4.2/9034	jtd	
Semivolatile Organic Compounds by EPA Extraction Method 3510C								
2,4,5-Trichlorophenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2,4,6-Trichlorophenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2,4-Dinitrotoluene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
2-Methylphenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
3 & 4-Methylphenol	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Hexachlorobenzene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Hexachlorobutadiene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Nitrobenzene	<5.00		5.00	ug/l	04/11/25 09:47	EPA 8270D -	CEK	
Pentachlorophenol	<25.0		25.0	ug/l	04/11/25 09:47	EPA 8270D -	CEK	

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Project: Saegertown PFAS Site

Project Number: 189432

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Semivolatile Organic Compounds by EPA Extraction Method 3510C								
Pyridine	<10.0		10.0	ug/l	04/11/25 09:47	EPA 8270D -	CEK	D, F
Surrogate: 2-Fluorophenol		*29 %*	*11.2-56.9*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Phenol-d6		*21 %*	*10-40.1*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Nitrobenzene-d5		*42 %*	*17.1-88.1*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: 2-Fluorobiphenyl		*50 %*	*20.4-94.5*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: 2,4,6-Tribromophenol		*74 %*	*36.5-125*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Surrogate: Terphenyl-d14		*88 %*	*32.2-144*		*04/11/25 09:47*	*EPA 8270D -*	CEK	
Volatile Organic Compounds by EPA Method 8260B/Prep Method 5030B								
1,1-Dichloroethane	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
2-Butanone	4.74		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Benzene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Carbon tetrachloride	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Chlorobenzene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Chloroform	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Tetrachloroethene	1.69		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Trichloroethene	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Vinyl chloride	<1.00		1.00	ug/l	04/17/25 13:19	EPA 8260B -	jml	
Surrogate: 1,2-Dichloroethane-d4		*99.7 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	

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Project Manager: Christopher Kupfer

Project: Saegertown PFAS Site

Project Number: 189432

Reported:
04/21/25 17:39

Client Sample ID: **IDW-AQ-0425**

Date/Time Sampled: 04/03/25 12:30

Laboratory Sample ID: **AZD1298-01 (Water/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B/Prep Method 5030B								
Surrogate: Fluorobenzene		*96.9 %*	*70-130*		*04/17/25 13:19*	*EPA 8260B -*	jml	

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Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: **IDW-SOIL-0425**

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: **AZD1298-02 (Solid/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Analyses to be performed immediately upon sampling. See Definition indicated by: #								
# pH @ 21°C	8.44			pH Units	04/09/25 14:45	SW846-9045 D	ztb	
Conventional Chemistry Parameters by SM/EPA Methods								
% Solids	86.2		0.100	%	04/07/25 14:43	SM 2540 G-11	ers	
Physical Parameters by APHA/ASTM/EPA Methods								
Ignitability - Burn Rate	<2.20		2.20	mm/sec	04/10/25 22:30	EPA 1030	dmm	G6
Reactive Cyanide by Preparation Method EPA 7.3.3.2								
Reactive Cyanide	<1.16		1.16	mg/kg dry	04/09/25 13:59	EPA 7.3.3.2(CN)/9014	jtd	
Reactive Sulfide by Preparation Method EPA 7.3.4.2								
Reactive Sulfide	<23.1		23.1	mg/kg dry	04/09/25 09:30	EPA 7.3.4.2/9034	jtd	
TCLP Extracted Analyses by EPA 1311								
Mercury	0.0172		0.00200	mg/l	04/09/25 13:41	SW EPA 7471B	RLG	
TCLP Extraction by EPA 1311								
# pH @ 22.6°C	5.34			pH Units	04/09/25 08:20	EPA 1311	app	

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Project: Saegertown PFAS Site

Project Number: 189432

Project Manager: Christopher Kupfer

Reported:
04/21/25 17:39

Client Sample ID: IDW-SOIL-0425

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: AZD1298-02 (Solid/Composite)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Metals extracted by EPA 1311/Preparation Method 3010A								
Silver	<0.0200		0.0200	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Arsenic	<0.0400		0.0400	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Barium	1.03		0.500	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Cadmium	<0.0200		0.0200	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Chromium	<0.0250		0.0250	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Copper	<0.0500		0.0500	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Nickel	<0.250		0.250	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Lead	<0.0400		0.0400	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Selenium	<0.100		0.100	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
Zinc	0.117		0.100	mg/l	04/10/25 11:27	EPA 6010B/2.0 -	seg	
TCLP Semivolatile Organic Compounds by EPA 1311/Extraction Method 3510C								
1,4-Dichlorobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	

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Project: Saegertown PFAS Site

Project Number: 189432

Reported:

Project Manager: Christopher Kupfer

04/21/25 17:39

Client Sample ID: IDW-SOIL-0425

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: AZD1298-02 (Solid/Composite)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Semivolatile Organic Compounds by EPA 1311/Extraction Method 3510C								
2,4,5-Trichlorophenol	<50.0		50.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2,4,6-Trichlorophenol	<50.0		50.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2,4-Dinitrotoluene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
2-Methylphenol	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
3 & 4-Methylphenol	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachlorobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachlorobutadiene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Hexachloroethane	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Nitrobenzene	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Pentachlorophenol	<25.0		25.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	
Pyridine	<10.0		10.0	ug/l	04/15/25 11:10	EPA 8270D -	cek	L
Surrogate: 2-Fluorophenol		*32.8 %*	*11.2-56.9*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Phenol-d6		*20.6 %*	*10-40.1*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Nitrobenzene-d5		*59.5 %*	*17.1-88.1*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: 2-Fluorobiphenyl		*56.0 %*	*20.4-94.5*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: 2,4,6-Tribromophenol		*47.9 %*	*36.5-125*		*04/15/25 11:10*	*EPA 8270D -*	cek	
Surrogate: Terphenyl-d14		*83.0 %*	*32.2-144*		*04/15/25 11:10*	*EPA 8270D -*	cek	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								
1,1-Dichloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	

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Project: Saegertown PFAS Site

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Reported:
04/21/25 17:39

Client Sample ID: **IDW-SOIL-0425**

Date/Time Sampled: 04/03/25 12:40

Laboratory Sample ID: **AZD1298-02 (Solid/Composite)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								
1,2-Dichloroethane	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
2-Butanone	<500		500	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Benzene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Carbon tetrachloride	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Chlorobenzene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Chloroform	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Tetrachloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Trichloroethene	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Vinyl chloride	<50.0		50.0	ug/l	04/09/25 20:19	EPA 8260B -	STG	
Surrogate: 1,2-Dichloroethane-d4		*98.5 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	
Surrogate: 4-Bromofluorobenzene		*106 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	
Surrogate: Fluorobenzene		*97.8 %*	*70-130*		*04/09/25 20:19*	*EPA 8260B -*	STG	

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Pace Altoona
2019 Ninth Avenue
Altoona, PA 16602
(814) 946-4306

EPA Lab ID: PA01737

NELAP
PA 07-00062
VA 460212

State Certifications:
MD 275
WV WW/SCM 364
WV DW 9963 CM

Pace DuBois
40 Hoover Avenue
DuBois, PA 15801
(814) 371-6030

EPA Lab ID: PA01735

PA DEP Chapter 252
PA 33-00258

Pace Erie
1920 East 38th Street
Erie, PA 16510
(814) 315-4343

EPA Lab ID: PA01736

NELAP
PA 25-05907
NY 12175

Pace Wysox
1851 Golden Mile Road
Wysox, PA 18854
(570) 265-5040

EPA Lab ID: PA01733

NELAP
PA 08-05622
NY 12127

Michael Baker Intl.

100 Airside Dr.

Coraopolis, PA 15108

Project Manager: Christopher Kupfer

Project: Saegertown PFAS Site

Project Number: 189432

Reported:

04/21/25 17:39

Notes

D	A Continuing Calibration Verification (CCV) analyzed with the analytical batch recovered above the acceptance range for the noted analyte.
F	The Laboratory Control Sample (LCS) analyzed with this preparation batch recovered above the acceptance range for the noted analyte.
G1	No flash detected up to 94.1 °C.
G6	According to EPA Method 1030/40 CFR 261.21, this sample did not have a burning rate greater than 2.2mm/second and is therefore not considered to have a positive result for ignitability.
L	The noted analyte was detected in the method blank.

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Project Manager: Christopher Kupfer

04/21/25 17:39

Definitions:

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

\+ MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Unless otherwise noted, all results for solids are reported on a dry weight basis.

Samples collected by Pace Labs' personnel are done so in accordance with Standard Operating Procedures established by Pace Labs.

\# The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory; and should be considered as analyzed outside the EPA holding time.

^ The following analytes are to be filtered immediately upon sampling: Hexavalent Chromium. Filtration through a 0.45 micron filter within 15 minutes of sampling is required for compliance with the Clean Water Act (CWA) for reporting of hexavalent chromium to prevent interconversion of chromium species.

* **Analysis location indicator:**
D: Indicates analysis performed by Pace Analytical Laboratories, LLC, 40 Hoover Ave., DuBois, PA 15801. PA DEP Chapter 252 certification: PA 33-00258.
E: Indicates analysis performed by Pace Analytical Laboratories, LLC, 1920 East 38th Street, Erie, PA 16510. NELAP certification: PA 25-05907.
W: Indicates analysis performed by Pace Analytical Laboratories, LLC, 1851 Golden Mile Rd., Wysox, PA 18854. NELAP certification: PA 08-05622 and NY 12127.

< Represents "less than" - indicates that the result was less than the RL, or the MDL if indicated for the parameter.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values. If Radiological results are reported, the MDC - Minimum Detectable Concentration is shown in the MDL column.

Definitions Continued:

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Michael Baker Intl.
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Project: Saegertown PFAS Site

Project Number: 189432

Reported:

Project Manager: Christopher Kupfer

04/21/25 17:39

RL	Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.
[CALC]	Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.
ND	Non Detect. The noted analyte was not detected in the sample.

(-) Method Revision Indicator - West Virginia Samples

CALC- : Indicates analysis by SM2340 B-2011. This method appears on the WV DEP List of Certified Parameters but the PA DEP does not offer accreditation for this method.
EPA 8270D - : Indicates that samples collected in West Virginia are analyzed by Method SW 8270E.
EPA 8260B - : Indicates that samples collected in West Virginia are analyzed by Method SW 8260D.
EPA 8015D - : Indicates that samples collected in West Virginia are analyzed by Method SW 8015C.
EPA 1010 - : Indicates that samples collected in West Virginia are analyzed by Method SW 1010B.
EPA 6010B - : Indicates that samples collected in West Virginia are analyzed by Method SW 6010D.

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Project: Saegertown PFAS Site

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04/21/25 17:39

Terms & Conditions

Services provided by Pace Analyitcal Services, LLC are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Pace Analytical Services, LLC ("Pace", "us", or "we") will provide, upon client request, chain of custody forms for use.

CONFIDENTIALITY Pace maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Pace's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Pace reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Pace are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Pace shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Pace. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody. Samples received at the laboratory after business hours are verified on the next business day. Discrepancies are documented on the Receiving Document.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Pace. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Pace routinely provides verbal or email results within 10 working days of receipt of sample(s). If requested, a hard copy of the data results are routinely sent via US Postal Service within 10 working days. At the request of the client, Pace may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Pace. Pace reserves the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Pace in accordance with their retention policy.

SAMPLE DISPOSAL Pace will maintain samples for four (4) weeks after the sample receipt date. Pace will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Pace reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Pace warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Pace does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Pace Analyitcal Services, LLC shall be invoiced by Pace and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l
Street Address: 100 AirSide Dr
Moon Twp, PA 15108
Customer Project #: 189432
Project Name: Saegertown PFAS Site
Site Collection Info/Facility ID (as applicable): Saegertown, PA

Contact/Report To: Chris Kupfer
Phone #: 412-269-6300
E-Mail: ckupfer@mbakerintl.com
Cc E-Mail:

Invoice To: MBI
Invoice E-Mail: ckupfer@mbakerintl.com
Purchase Order # (if applicable): AZD1298
Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): Crawford, PA

Data Deliverables:
[X] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other ____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCLP RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment	Preservation non-conformance identified for sample
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8V	
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra Soil included	5, 8V

Specify Container Size **
Identify Container Preservative Type***
Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100ml, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr:
AcctNum / Client ID:
Table #:
Profile / Template:
Prelog / Bottle Ord. ID:

Additional Instructions from Pace®:

Collected By:
(Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: Thermometer ID: PC-12 Correction Factor (°C): Obs. Temp. (°C) Corrected Temp (°C) On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula / MBI	4/7/25 0910		4/7/25 1110
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michaud / Baker	WORK ORDER	AZD1291
DATE	4/7/25	TIME	9:20
INITIALS	JD	PAGE	2 OF 2
RECEIVED TEMP (C°)	6.8°c	WERE TEMPS ACCEPTABLE BASED ON SAMPLE DATE/TIME?	(Y) IF NO, EXPLAIN: CLIENT NOTIFICATION REQUIRED N
RECEIVED ON ICE?	(Y) N		
AM TEMP GUN ID	IR-12		
AM TEMP <6°C	(Y) N NA		
CUSTODY SEALS?	Y (N) NA		
SEALS INTACT?	Y N (NA)		

WATER TEMPS SHOULD BE ABOVE FREEZING TO 6.0°C
~FOR PA SAMPLES: >6°C OK WHEN COLLECTED SAME CALENDAR DAY AS RECEIPT, WHEN ON ICE, WITH EVIDENCE OF COOLING~

CHAIN OF CUSTODY (COC)

DID COC ACCOMPANY SAMPLES?	(Y) N	SAMPLE LOCATION/DESCRIPTION/ID?	(Y) N
IF NO TO ANY QUESTION, COC IS INCOMPLETE AND REQUIRES ATTENTION!		NAME or INITIALS of SAMPLE COLLECTOR?	(Y) N
IF PWS, DOES COC CONTAIN:		COMPLETE DATES/TIMES ?	(Y) N
7-DIGIT PWS ID?	Y N	GRAB/COMPOSITE NOTED?	(Y) N
PWS SAMPLE ID?	Y N	RELINQUISHED SIGNATURE?	(Y) N
CONTACT NAME?	Y N ON RECORD	RECEIVED SIGNATURE?	(Y) N
CONTACT NUMBER?	Y N ON RECORD	#NUMBER OF CONTAINERS PER SAMPLE?	(Y) N
IS SAMPLE REPORTABLE?	Y N	#PRESERVATION TYPE(S)?	(Y) N
7-DIGIT PWS ID & PWS SAMPLE ID MUST BE RECORDED ON COC			

 # If the COC does not list the containers/preservative received for each sample, fill out page 2 of this document. If page 2 is not required, it will not be included as part of the sample record.

BOTTLEWARE & PRESERVATION

SAMPLE BOTTLES INTACT?	(Y) N	IF NO, EXPLAIN:	
SAMPLE LABELS MATCH COC? (ID, DATE, TIME)	(Y) N	IF NO, EXPLAIN:	
CORRECT CONTAINERS?	(Y) N	IF NO, EXPLAIN:	
ADEQUATE VOLUME OF SAMPLE PROVIDED?	(Y) N	IF NO, EXPLAIN:	
HEADSPACE? Y (N) NA *Volatiles, Odor, Ignitability, Sulfide*	FIELD FILTERED? Y N (NA) *Dissolved Analyses, Hex Cr, Ortho-Phos*	TRIP BLANKS? Y (N) NA *Required for 524.2 Volatiles, EDB/DBCP*	
ALL CONTAINER PRESERVATION MEETS REQUIREMENTS?	(Y) N NA	IF NO, EXPLAIN:	
PRESERVATION CHECKED	DATE 4/7/25	TIME 9:25	INITIALS JD
PRESERVATION ADDED	____ mL Added DATE	TIME	INITIALS

PRESERVATIVE:	ELEMENT ID:	pH STRIPS ELEMENT ID	SAMPLES LABELED BY	DATE
		5B240512	INITIALS	4/07/25
			TIME	1330

CLIENT NOTIFICATION

FILL OUT THE FOLLOWING:

DATE/TIME	REASON FOR CONTACT
PAS-ALTOONA EMPLOYEE	OUTCOME OF DISCUSSION
PERSON CONTACTED	ADDITIONAL NOTES
CIRCLE METHOD PHONE / EMAIL / OTHER	

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT: Michael Baker | WORK ORDER: A2D1298 | PAGE: 3 OF 3

INITIALS: JD | DATE: 4/7/25 | TIME: 9:20

If the COC does not list the containers/preservative received for each sample, record below.

Possible Container Preservatives (NP = Not Preserved)					
HCl	Hydrochloric Acid	HNO_3	Nitric Acid	$Na_2S_2O_3$	Sodium Thiosulfate
$C_6H_8O_6$	Ascorbic Acid	EDA	Ethylenediamine	$NaHSO_4$	Sodium Bisulfate
ZnAce	Zinc Acetate	NaOH	Sodium Hydroxide	$(NH_4)_2SO_4$	Ammonium Sulfate Buffer
MeOH	Methanol	NH_4Cl	Ammonium Chloride	H_2SO_4	Sulfuric Acid

Possible Container Materials/Types	Possible Container Sizes
P - Plastic, AG - Amber, G - Glass, B - Baggie, C - Cubitainer, O - Other (OTHER MUST BE SPECIFIED)	1gal, 120mL (Bacti), 125mL, 1L, 2oz, 2.5gal, 250mL, 300mL, 32oz, 4oz, 40mL (Vial), 5gal, 500mL, 8oz

IF USED, SAMPLE FRACTION MUST ALSO BE RECORDED ON COC — ADD ONE CONTAINER TYPE PER LINE

Sample Fraction	Sample Description	Container Type	Container Size (MUST CONTAIN UNITS)	Preservative(s)	# of Type Received	Comments
	01	AG	1L	NP	1	
		P	1L	NP	2	
		P	250ml	HNO_3	1	<2
		G	40 ml	HCl	2	
	02	G	32oz	NP	6	

Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l
Street Address: 100 AirSide Dr
Moon Twp, PA 15108
Customer Project #: 189432
Project Name: Saegertown PFAS Site
Site Collection Info/Facility ID (as applicable): Saegertown, PA

Contact/Report To: Chris Kupfer
Phone #: 412-269-6300
E-Mail: ckupfer@mbakerintl.com
Cc E-Mail:

Invoice To: MBI
Invoice E-Mail: ckupfer@mbakerintl.com
Purchase Order # (if applicable): AZD1298
Quote #:
County / State origin of sample(s): Crawford, PA

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other ____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCL II RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8260
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra soil included 8260

Specify Container Size **
Identify Container Preservative Type***
Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 50mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By: (Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	AC-2				

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula / MBI	4/7/25 0910		4/7/25 0910
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

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SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michaud / Baker	WORK ORDER	AZD1291
DATE	4/7/25	TIME	9:20
INITIALS	JD	PAGE	2 OF 2
RECEIVED TEMP (°C)	6.8°c	WERE TEMPS ACCEPTABLE BASED ON SAMPLE DATE/TIME?	(Y) IF NO, EXPLAIN: CLIENT NOTIFICATION REQUIRED
RECEIVED ON ICE?	(Y) N		
AM TEMP GUN ID	IR-12		
AM TEMP <6°C	(Y) N NA		
CUSTODY SEALS?	Y (N) NA		
SEALS INTACT?	Y N (NA)		

WATER TEMPS SHOULD BE ABOVE FREEZING TO 6.0°C
~FOR PA SAMPLES: >6°C OK WHEN COLLECTED SAME CALENDAR DAY AS RECEIPT, WHEN ON ICE, WITH EVIDENCE OF COOLING~

CHAIN OF CUSTODY (COC)

DID COC ACCOMPANY SAMPLES?	(Y) N	SAMPLE LOCATION/DESCRIPTION/ID?	(Y) N
IF NO TO ANY QUESTION, COC IS INCOMPLETE AND REQUIRES ATTENTION!		NAME or INITIALS of SAMPLE COLLECTOR?	(Y) N
		COMPLETE DATES/TIMES ?	(Y) N
IF PWS, DOES COC CONTAIN:		GRAB/COMPOSITE NOTED?	(Y) N
7-DIGIT PWS ID?	Y N	RELINQUISHED SIGNATURE?	(Y) N
PWS SAMPLE ID?	Y N	RECEIVED SIGNATURE?	(Y) N
CONTACT NAME?	Y N ON RECORD	#NUMBER OF CONTAINERS PER SAMPLE?	(Y) N
CONTACT NUMBER?	Y N ON RECORD	#PRESERVATION TYPE(S)?	(Y) N
IS SAMPLE REPORTABLE?	Y N	* If the COC does not list the containers/preservative received for each sample, fill out page 2 of this document. If page 2 is not required, it will not be included as part of the sample record.	
7-DIGIT PWS ID & PWS SAMPLE ID MUST BE RECORDED ON COC			

BOTTLEWARE & PRESERVATION

SAMPLE BOTTLES INTACT?	(Y) N	IF NO, EXPLAIN:	
SAMPLE LABELS MATCH COC? (ID, DATE, TIME)	(Y) N	IF NO, EXPLAIN:	
CORRECT CONTAINERS?	(Y) N	IF NO, EXPLAIN:	
ADEQUATE VOLUME OF SAMPLE PROVIDED?	(Y) N	IF NO, EXPLAIN:	

HEADSPACE? Y (N) NA *Volatiles, Odor, Ignitability, Sulfide*	FIELD FILTERED? Y N (NA) *Dissolved Analyses, Hex Cr, Ortho-Phos*	TRIP BLANKS? Y (N) NA *Required for 524.2 Volatiles, EDB/DBCP*

ALL CONTAINER PRESERVATION MEETS REQUIREMENTS?	(Y) N NA	IF NO, EXPLAIN:	
PRESERVATION CHECKED	DATE 4/7/25	TIME 9:15	INITIALS JD
PRESERVATION ADDED	_____ mL Added DATE	TIME	INITIALS

PRESERVATIVE:	ELEMENT ID:	pH STRIPS ELEMENT ID 5B24052	SAMPLES LABELED BY	DATE	04/07/25
			INITIALS	TIME	1330

CLIENT NOTIFICATION *FILL OUT THE FOLLOWING:*

DATE/TIME	REASON FOR CONTACT
PAS-ALTOONA EMPLOYEE	OUTCOME OF DISCUSSION
PERSON CONTACTED	ADDITIONAL NOTES
CIRCLE METHOD PHONE / EMAIL / OTHER	

SAMPLE CONDITION UPON RECEIPT (SCUR)

CLIENT	Michael Baker	WORK ORDER	A2D1298	PAGE	3 OF 3
INITIALS	JD	DATE	4/7/23	TIME	9:20

If the COC does not list the containers/preservative received for each sample, record below.

Possible Container Preservatives (NP = Not Preserved)

HCl	Hydrochloric Acid	HNO_3	Nitric Acid	$Na_2S_2O_3$	Sodium Thiosulfate
$C_6H_8O_6$	Ascorbic Acid	EDA	Ethylenediamine	$NaHSO_4$	Sodium Bisulfate
ZnAce	Zinc Acetate	NaOH	Sodium Hydroxide	$(NH_4)_2SO_4$	Ammonium Sulfate Buffer
MeOH	Methanol	NH_4Cl	Ammonium Chloride	H_2SO_4	Sulfuric Acid

Possible Container Materials/Types	***Possible Container Sizes***
P - Plastic, AG - Amber, G - Glass, B - Baggie, C - Cubitainer, O - Other (OTHER MUST BE SPECIFIED)	1gal, 120mL (Bacti), 125mL, 1L, 2oz, 2.5gal, 250mL, 300mL, 32oz, 4oz, 40mL (Vial), 5gal, 500mL, 8oz

IF USED, SAMPLE FRACTION MUST ALSO BE RECORDED ON COC — ADD ONE CONTAINER TYPE PER LINE

Sample Fraction	Sample Description	Container Type	Container Size MUST CONTAIN UNITS	Preservative(s)	# of Type Received	Comments
	01	AG	1L	NP	1	
		P	1L	NP	2	
		P	250ml	HNO_3	1	<2
		G	40 ml	HCl	2	
	02	G	32oz	NP	6	

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

April 21, 2025

John McNair
Pace Analytical - Altoona, PA
2019 Ninth Avenue
Altoona, PA 16602

RE: Pace Altoonia AZD1298

Dear John McNair:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **4/11/25 11:50 am** and logged in under work order **ID02404**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise . We are always trying to improve our customer service and we welcome you to contact the General Manager, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

Jennifer L Solomon
Client Services Manager
(309)683-1721
jennifer.solomon@pacelabs.com

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

ANALYTICAL RESULTS

Sample: ID02404-01
Name: AZD1298-02
Matrix: Solid

Sampled: 04/03/25 12:40
Received: 04/11/25 11:50

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Density	1.1	g/cc		04/21/25 13:07	1		04/21/25 13:26	AAG	SM 2710F MOD*

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B530666 - 04-No Prep WC Solid - SM 2710F MOD									
Duplicate (B530666-DUP1)	**Sample: ID02404-01**			Prepared & Analyzed: 04/21/25					
Density	1.10	g/cc			1.11			0.6	20

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Certified by: Jill Clarke For Jennifer L Solomon, Client Services Manager

SUBCONTRACT ORDER

Pace Altoona

AZD1298

ID 02404

SENDING LABORATORY:

Pace Altoona
2019 Ninth Avenue
Altoona, PA 16602
Phone: 814.946.4306
Fax: 814.946.8791
Project Manager: John R McNair Jr

RECEIVING LABORATORY:

Pace Analytical Services Inc. Hazelwood, MO
944 Anglum Road
Hazelwood, MO 63042
Phone :(314) 432-0550
Fax:

***PA Drinking Water samples with a PWSID provided must be uploaded to DWELR unless otherwise marked.

Due 4/20/2025

Water Type: ☐ Drinking Water ☐ Non Potable Water

State: PA WV VA OH MD

☐ RADS only - Non potable Water - Gamma

PWS ID Number: **Name of System:**

Contact Name: **Contact Number:**

Sample ID: AZD1298-02 **Solid** **Composite** **Location ID** **Comments:**

Sample Name: IDW-SOIL-0425

Analysis	Sample Begin	Sample End
SUB- Density	4/3/2025 12:40	04/03/25 12:40

Containers Supplied:
32oz Jar (F)

IR Gun # G8 Correction Factor (Deg C) -0.2
Observed Temp (Deg C) 5.5 Corrected Temp (Deg C) 5.3
Delivery Method: FedEx UPS Walk-in USPS Other

1/31/23 Update to Pace email address
***NEW* Email PDF Report & Excel EDD to:**
ALTO.SubContract@pacelabs.com
For questions call:
Troy Tyler - 814-800-4027
Michelle Fye - 814-800-4012

Client
Sampled By

Released By	Date	Received By	Date
DF	14:00 4/9/25	[signature]	4-11-25 1150
Released By	Date	Received By	Date

Sampler signatures provided on original COC.

Pace® Location Requested (City/State):
Pace Altoona
2019 9th Avenue Altoona, PA 16602

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

AZD1298

Company Name: Michael Baker Int'l	Contact/Report To: Chris Kupfer
Street Address: 100 AirSide Dr, Moon Twp, PA 15108	Phone #: 412-269-6300
Customer Project #: 189432	E-Mail: ckupfer@mbakerintl.com
Project Name: Saegertown PFAS Site	Cc E-Mail:
Site Collection Info/Facility ID (as applicable): Saegertown, PA	Invoice To: MBI
	Invoice E-Mail: ckupfer@mbakerintl.com
	Purchase Order # (if applicable): AZD1298
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET	County / State origin of sample(s): Crawford, PA

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable. Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Flashpoint	pH	Reactive Cyanide	Reactive Sulfide	TCLP RCRA Metals	TCL VOCs	TCL SVOCs	Corrosivity	Specific Gravity	Sample Comment	Preservation non-conformance identified for sample
IDW-AQ-0425 01	WW	C	4/3/25	1230			6			X	X	X	X	X	X	X	X	X	6, 8V	
IDW-SOIL-0425 02	SS	C	4/3/25	1240			6			X	X	X	X	X	X	X	X	X	Extra Soil included	5,4V

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Additional Instructions from Pace®:

Collected By: (Printed Name) Brad Mikula
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp (°C)	Corrected Temp (°C)	On Ice:
	AC-R				

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
B. Mikula/MBI	4/7/25 0910		4/7/25 0910
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-PEOR-0098 v04_Sample Condition Upon Receipt

Client Name: PACE-Altoona Work Order #: 1D02404 Completed by / Date: MG 4-11-25

Custody seal on cooler/box present and seal intact:	☐Yes ☐No ☑N/A	
Chain of Custody (CoC) Present:	☑Yes ☐No	
CoC is Legible:	☑Yes ☐No	
Sampler Name Present on COC:	☐Yes ☑No	yes-mg 4-11-25
Sampler Signature Present on CoC:	☐Yes ☑No	
Sample Collection Date Present on CoC:	☑Yes ☐No	
Sample Collection Time Present on CoC:	☑Yes ☐No	
CoC Relinquished by Client:	☑Yes ☐No	
Unique Sample ID's Present on CoC:	☑Yes ☐No	
CoC and Sample Container Labels Match:	☑Yes ☐No	
Sample chilling process started prior to receipt: If yes, what type of ice:	☐Yes ☐No ☐N/A ☐Wet ☐Blue	
Samples received within temperature compliance: (≤ 6°C,but above freezing or received same day collected and chill process started prior to receipt)	☐Yes ☐No ☐N/A	
Container(s) Received Intact:	☑Yes ☐No	
Containers Received Labeled and Labels are Legible:	☑Yes ☐No	
Appropriate Bottles Received for Analysis Requested:	☑Yes ☐No	
Sufficient Sample Volume Received:	☑Yes ☐No	
USDA Regulated Soil: Country of Origin: _____ State of Origin:	☐Yes ☐No ☑N/A	
Trip Blank(s) Received: If present, are they Listed on CoC:	☐Yes ☐No ☑N/A ☐Yes ☐No	
VOA vials are free of any headspace larger than pea sized bubble (>6mm) – Applies to methods 8260, 624, 524.2 - including THM vials If headspace is present, note sample ID and # of vials	☐Yes ☐No ☑N/A	
All (Non-Field) Analysis Received Within Hold Times:	☑Yes ☐No	
Rush Turn Around Time Requested:	☐Yes ☑No	NO-mg 4-11-25
Short Hold Time Analysis (48 Hours or Less):	☐Yes ☑No	

Client Notification/ Resolution: If checked, please see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample.

WORK ORDER #: 1D02404 INITIALS: MG

Item # / Test										
P, U, 1000ml - Total										
P, U, 250ml										
P, U, 500ml - Total										
P, U, 500ml - Diss										
P, 250ml/500ml H_2SO_4 - Total										
P, 250ml/500ml H_2SO_4 - Diss										
P, 250ml/500ml NaOH										
P, 250ml/500ml HNO_3 - Total										
P, 250ml/500ml HNO_3 - Diss										
P, 500ml NaOH + ZnAc										
P, U, 150ml/4oz TC										
P, 2.5L HNO_3										
P, U, 2.5L										
P, U, 50ml										
S, P, 120ml $Na_2S_2O_3$										
P, 16oz - Soil/Sludge										
Amber Glass Bottles - Vials										
A, G, U, 1000ml										
A, G, 1000ml HCl										
A, G, 1000ml $MeCl_2$										
A, G, 500ml H_2SO_4										
A, G, U, 500ml										
A, G, U, 250ml H_2SO_4										
A, G, U, 250ml										
A, V, 40ml H_2SO_4										
A, V, U, 60ml										
Clear Glass Bottles - Soil/Sludge Jars, Vials										
C, G, 1000ml HCl										
C, G, U, 1000ml	1									
C, G, U, 250ml - LLHg										
C, G, U, 250ml - LLHg - FB										
C, G, 16oz - Soil Jar										
C, G, 9oz - Soil Jar										
C, G, 4oz - Soil Jar										
C, G, 2oz - Soil Jar										
C, V, 40ml TSP										
C, V, 40ml HCl										
C, V, U, 40ml										
C, V, 40ml $Na_2S_2O_3$										
C, V, 40ml MeOH										
C, V, 40ml Sodium Bisulfate										
C, V, U, 60ml										
Other Containers										
Description										

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Chris Kupfer
Michael Baker International, Inc.
Airside Business Park
100 Airside Drive
Moon Township, Pennsylvania 15108

Generated 4/21/2025 9:53:17 AM

JOB DESCRIPTION

DEP Saegertown PFAS

JOB NUMBER

180-188862-1

Eurofins Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh PA 15238

See page two for job notes and contact information.

my EOL

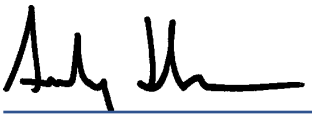
Job Notes

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

PA Lab ID: 02-00416

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

Authorization



Generated
4/21/2025 9:53:17 AM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

Compliance Statement

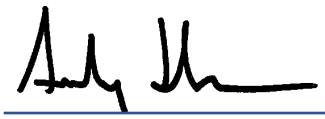
Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



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Job ID: 180-188862-1 Eurofins Pittsburgh

Job Narrative
180-188862-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 4/7/2025 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.8°C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): IDW-SOIL-0425 (180-188862-1). The container labels list the sample collection time as 12:40, while the COC lists 12:30. Sample logged as 12:40 per the client.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): IDW-AQ-0425 (180-188862-2). The container labels list the sample collection time as 12:30, while the COC lists 12:40. Sample logged as 12:30 per the client.

The following samples were received at the laboratory outside the required temperature criteria: IDW-SOIL-0425 (180-188862-1) and IDW-AQ-0425 (180-188862-2). This does not meet regulatory requirements.

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

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

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

Definitions/Glossary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.

Glossary

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

Accreditation/Certification Summary

Client: Michael Baker International, Inc.
Job ID: 180-188862-1
Project/Site: DEP Saegertown PFAS

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

Sample Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-188862-1	IDW-SOIL-0425	Solid	04/03/25 12:40	04/07/25 12:20
180-188862-2	IDW-AQ-0425	Water	04/03/25 12:30	04/07/25 12:20

Method Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
537 (mod)	EPA 537 Isotope Dilution	EPA	ELLE
Extract Aliquot	Preparation, Extract Aliquot	None	ELLE
SPE	PFAS by SPE	Lab SOP	ELLE

Protocol References:

EPA = US Environmental Protection Agency

Lab SOP = Laboratory Standard Operating Procedure

None = None

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Client Sample ID: IDW-SOIL-0425
Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			628143	04/09/25 07:05	UVJN	ELLE
	Instrument ID: NOEQUIP									

Client Sample ID: IDW-SOIL-0425
Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1
Matrix: Solid
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.35 g	10 mL	631794	04/17/25 02:16	UBKG	ELLE
Total/NA	Analysis	8082A		1	1 uL	1 uL	631963	04/17/25 10:11	M6UH	ELLE
	Instrument ID: 17342									
Total/NA	Prep	537 (mod)			1.00 g	4 mL	628784	04/10/25 08:04	D5VP	ELLE
Total/NA	Cleanup	Extract Aliquot			2.00 mL	1 mL	628938	04/10/25 12:49	D5VP	ELLE
Total/NA	Analysis	537 IDA		1	1 uL	1 uL	630737	04/15/25 10:54	FDE4	ELLE
	Instrument ID: 30731									

Client Sample ID: IDW-AQ-0425
Date Collected: 04/03/25 12:30
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			224.3 mL	5 mL	629772	04/13/25 09:00	L2FU	ELLE
Total/NA	Analysis	8082A		1	1 uL	1 uL	630117	04/14/25 11:21	M6UH	ELLE
	Instrument ID: 17342									
Total/NA	Prep	SPE			263.9 mL	1.00 mL	628488	04/09/25 15:59	Y4GV	ELLE
Total/NA	Analysis	537 IDA		1			629088	04/10/25 18:14	DSU6	ELLE
	Instrument ID: 30638									

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Analyst References:

Lab: ELLE

Batch Type: Cleanup

D5VP = Sarah Hammen

Batch Type: Prep

D5VP = Sarah Hammen
L2FU = Meghan McArdle
UBKG = Brian Graham
Y4GV = Zoe Eckman

Batch Type: Analysis

DSU6 = John Grossi
FDE4 = Shih-Hung Yang
M6UH = Abigail Northeimer
UVJN = Vincent Norton

Client Sample ID: IDW-SOIL-0425

Date Collected: 04/03/25 12:40
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-1

Matrix: Solid
Percent Solids: 81.4

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1221	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1232	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1242	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1248	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1254	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1
PCB-1260	ND		20.6		ug/Kg	☼	04/17/25 02:16	04/17/25 10:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*84*		*66 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*66 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
Tetrachloro-m-xylene	*76*		*68 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*
Tetrachloro-m-xylene	*79*		*68 - 130*	*04/17/25 02:16*	*04/17/25 10:11*	*1*

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluoropropanesulfonic acid (PFPrS)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluoropropionic acid (PFPrA)	ND		6.14		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluorobutanesulfonamide (FBSA)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1
Perfluorohexanesulfonamide (FHxSA)	ND		0.737		ng/g	☼	04/10/25 08:04	04/15/25 10:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*112*		*31 - 166*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C4-PFBA	*114*		*25 - 147*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C3-PFHxS	*113*		*26 - 155*	*04/10/25 08:04*	*04/15/25 10:54*	*1*
13C3-PFPrA	*136*		*10 - 158*	*04/10/25 08:04*	*04/15/25 10:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**18.6**	**!**	1.0		%			04/09/25 07:05	1

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

Client Sample ID: IDW-AQ-0425

Date Collected: 04/03/25 12:30
Date Received: 04/07/25 12:20

Lab Sample ID: 180-188862-2

Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1221	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1232	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1242	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1248	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1254	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1
PCB-1260	ND		0.557		ug/L		04/13/25 09:00	04/14/25 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*10 - 148*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*10 - 148*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
Tetrachloro-m-xylene	*76*		*33 - 137*	*04/13/25 09:00*	*04/14/25 11:21*	*1*
Tetrachloro-m-xylene	*74*		*33 - 137*	*04/13/25 09:00*	*04/14/25 11:21*	*1*

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluoropropanesulfonic acid (PFPrS)	**2.93**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluoropropionic acid (PFPrA)	ND		18.9		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluorobutanesulfonamide (FBSA)	**11.7**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1
Perfluorohexanesulfonamide (FHxSA)	**57.1**		1.89		ng/L		04/09/25 15:59	04/10/25 18:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*87*		*27 - 200*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C4-PFBA	*68*		*10 - 168*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C3-PFHxS	*85*		*39 - 164*	*04/09/25 15:59*	*04/10/25 18:14*	*1*
13C3-PFPrA	*32*		*10 - 155*	*04/09/25 15:59*	*04/10/25 18:14*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 410-629772/1-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1221	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1232	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1242	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1248	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1254	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1
PCB-1260	ND		0.500		ug/L		04/13/25 09:00	04/14/25 09:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*72*		*10 - 148*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 148*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
Tetrachloro-m-xylene	*75*		*33 - 137*	*04/13/25 09:00*	*04/14/25 09:46*	*1*
Tetrachloro-m-xylene	*71*		*33 - 137*	*04/13/25 09:00*	*04/14/25 09:46*	*1*

Lab Sample ID: LCS 410-629772/2-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629772

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016			5.00	4.437		ug/L		89	60 - 117		
PCB-1260			5.00	4.501		ug/L		90	57 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*96*		*10 - 148*
DCB Decachlorobiphenyl (Surr)	*80*		*10 - 148*
Tetrachloro-m-xylene	*82*		*33 - 137*
Tetrachloro-m-xylene	*76*		*33 - 137*

Lab Sample ID: LCSD 410-629772/3-A
Matrix: Water
Analysis Batch: 630117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 629772

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016			5.00	4.381		ug/L		88	60 - 117	1	30
PCB-1260			5.00	4.467		ug/L		89	57 - 134	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*97*		*10 - 148*
DCB Decachlorobiphenyl (Surr)	*81*		*10 - 148*
Tetrachloro-m-xylene	*83*		*33 - 137*
Tetrachloro-m-xylene	*75*		*33 - 137*

Lab Sample ID: MB 410-631794/1-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 410-631794/1-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1232	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1242	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1248	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1254	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1
PCB-1260	ND		17.0		ug/Kg		04/17/25 02:16	04/17/25 09:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*99*		*66 - 130*	*04/17/25 02:16*	*04/17/25 09:50*	*1*
Tetrachloro-m-xylene	*94*		*68 - 130*	*04/17/25 02:16*	*04/17/25 09:50*	*1*

Lab Sample ID: LCS 410-631794/2-A
Matrix: Solid
Analysis Batch: 631963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	167	169.4		ug/Kg		102	68 - 121
PCB-1260	167	166.6		ug/Kg		100	75 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*106*		*66 - 130*
Tetrachloro-m-xylene	*100*		*68 - 130*

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-628488/1-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluoropropanesulfonic acid (PFPrS)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluoropropionic acid (PFPrA)	ND		20.0		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluorobutanesulfonamide (FBSA)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1
Perfluorohexanesulfonamide (FHxSA)	ND		2.00		ng/L		04/09/25 15:59	04/10/25 17:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3-PFBS	*75*		*27 - 200*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C4-PFBA	*75*		*10 - 168*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C3-PFHxS	*74*		*39 - 164*	*04/09/25 15:59*	*04/10/25 17:34*	*1*
13C3-PFPrA	*74*		*10 - 155*	*04/09/25 15:59*	*04/10/25 17:34*	*1*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-628488/2-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	23.7	25.78		ng/L		109	46 - 135
Perfluoropropanesulfonic acid (PFPrS)	23.4	24.40		ng/L		104	29 - 167
Perfluoropropionic acid (PFPrA)	25.6	27.32		ng/L		107	31 - 176
Perfluorobutanesulfonamide (FBSA)	25.6	23.00		ng/L		90	48 - 130
Perfluorohexanesulfonamide (FHxSA)	25.6	25.69		ng/L		100	47 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3-PFBS	*86*		*27 - 200*
13C4-PFBA	*86*		*10 - 168*
13C3-PFHxS	*87*		*39 - 164*
13C3-PFPrA	*95*		*10 - 155*

Lab Sample ID: LCSD 410-628488/3-A
Matrix: Water
Analysis Batch: 629088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 628488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	23.7	26.01		ng/L		110	46 - 135	1	30
Perfluoropropanesulfonic acid (PFPrS)	23.4	26.63		ng/L		114	29 - 167	9	30
Perfluoropropionic acid (PFPrA)	25.6	28.30		ng/L		111	31 - 176	4	30
Perfluorobutanesulfonamide (FBSA)	25.6	25.47		ng/L		100	48 - 130	10	30
Perfluorohexanesulfonamide (FHxSA)	25.6	27.23		ng/L		106	47 - 130	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3-PFBS	*79*		*27 - 200*
13C4-PFBA	*77*		*10 - 168*
13C3-PFHxS	*82*		*39 - 164*
13C3-PFPrA	*79*		*10 - 155*

Lab Sample ID: MB 410-628784/1-B
Matrix: Solid
Analysis Batch: 630737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluoropropanesulfonic acid (PFPrS)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluoropropionic acid (PFPrA)	ND		5.00		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluorobutanesulfonamide (FBSA)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1
Perfluorohexanesulfonamide (FHxSA)	ND		0.600		ng/g		04/10/25 08:04	04/15/25 10:26	1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	113		31 - 166	04/10/25 08:04	04/15/25 10:26	1
13C4-PFBA	116		25 - 147	04/10/25 08:04	04/15/25 10:26	1
13C3-PFHxS	112		26 - 155	04/10/25 08:04	04/15/25 10:26	1
13C3-PFPrA	139		10 - 158	04/10/25 08:04	04/15/25 10:26	1

Lab Sample ID: LCS 410-628784/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)			23.1	15.71		ng/g		68	42 - 144		
Perfluoropropanesulfonic acid (PFPrS)			22.9	15.82		ng/g		69	20 - 160		
Perfluoropropionic acid (PFPrA)			25.0	15.35		ng/g		61	55 - 136		
Perfluorobutanesulfonamide (FBSA)			25.0	18.89		ng/g		76	31 - 130		
Perfluorohexanesulfonamide (FHxSA)			25.0	16.75		ng/g		67	35 - 136		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3-PFBS	108		31 - 166
13C4-PFBA	112		25 - 147
13C3-PFHxS	118		26 - 155
13C3-PFPrA	131		10 - 158

Lab Sample ID: 180-188862-1 MS — **Client Sample ID: IDW-SOIL-0425**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		27.3	19.32		ng/g	☼	71	42 - 144		
Perfluoropropanesulfonic acid (PFPrS)	ND		27.1	18.14		ng/g	☼	67	20 - 160		
Perfluoropropionic acid (PFPrA)	ND		29.5	17.88		ng/g	☼	61	55 - 136		
Perfluorobutanesulfonamide (FBSA)	ND		29.5	20.29		ng/g	☼	69	31 - 130		
Perfluorohexanesulfonamide (FHxSA)	ND		29.5	20.91		ng/g	☼	71	35 - 136		

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3-PFBS	121		31 - 166
13C4-PFBA	130		25 - 147
13C3-PFHxS	133		26 - 155
13C3-PFPrA	150		10 - 158

Lab Sample ID: 180-188862-1 MSD — **Client Sample ID: IDW-SOIL-0425**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 630737 — **Prep Batch: 628784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	ND		28.4	20.83		ng/g	☼	73	42 - 144	8	30

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 180-188862-1 MSD
Matrix: Solid
Analysis Batch: 630737

Client Sample ID: IDW-SOIL-0425
Prep Type: Total/NA
Prep Batch: 628784

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropropanesulfonic acid (PFPrS)	ND		28.1	19.62		ng/g	☼	70	20 - 160	8	30
Perfluoropropionic acid (PFPrA)	ND		30.7	18.99		ng/g	☼	62	55 - 136	6	30
Perfluorobutanesulfonamide (FBSA)	ND		30.7	23.16		ng/g	☼	75	31 - 130	13	30
Perfluorohexanesulfonamide (FHxSA)	ND		30.7	22.39		ng/g	☼	73	35 - 136	7	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3-PFBS	*125*		*31 - 166*
13C4-PFBA	*133*		*25 - 147*
13C3-PFHxS	*135*		*26 - 155*
13C3-PFPrA	*152*		*10 - 158*

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

GC Semi VOA

Prep Batch: 629772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	3510C	
MB 410-629772/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-629772/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-629772/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 630117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	8082A	629772
MB 410-629772/1-A	Method Blank	Total/NA	Water	8082A	629772
LCS 410-629772/2-A	Lab Control Sample	Total/NA	Water	8082A	629772
LCSD 410-629772/3-A	Lab Control Sample Dup	Total/NA	Water	8082A	629772

Prep Batch: 631794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	3546	
MB 410-631794/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-631794/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 631963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	8082A	631794
MB 410-631794/1-A	Method Blank	Total/NA	Solid	8082A	631794
LCS 410-631794/2-A	Lab Control Sample	Total/NA	Solid	8082A	631794

LCMS

Prep Batch: 628488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	SPE	
MB 410-628488/1-A	Method Blank	Total/NA	Water	SPE	
LCS 410-628488/2-A	Lab Control Sample	Total/NA	Water	SPE	
LCSD 410-628488/3-A	Lab Control Sample Dup	Total/NA	Water	SPE	

Prep Batch: 628784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	
MB 410-628784/1-B	Method Blank	Total/NA	Solid	537 (mod)	
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	537 (mod)	
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	537 (mod)	

Cleanup Batch: 628938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784
MB 410-628784/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	628784
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	628784
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	Extract Aliquot	628784

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: DEP Saegertown PFAS

Job ID: 180-188862-1

LCMS

Analysis Batch: 629088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-2	IDW-AQ-0425	Total/NA	Water	537 IDA	628488
MB 410-628488/1-A	Method Blank	Total/NA	Water	537 IDA	628488
LCS 410-628488/2-A	Lab Control Sample	Total/NA	Water	537 IDA	628488
LCSD 410-628488/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	628488

Analysis Batch: 630737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938
MB 410-628784/1-B	Method Blank	Total/NA	Solid	537 IDA	628938
LCS 410-628784/2-B	Lab Control Sample	Total/NA	Solid	537 IDA	628938
180-188862-1 MS	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938
180-188862-1 MSD	IDW-SOIL-0425	Total/NA	Solid	537 IDA	628938

General Chemistry

Analysis Batch: 628143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-188862-1	IDW-SOIL-0425	Total/NA	Solid	Moisture	

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Brad Mikula	Lab PM: Johnson, Andy	Carrier Tracking No(s):	COC No: 180-112032-19708.1
Client Contact: Brad Mikula / Chris Kupfer	Phone: 814-241-5054	E-Mail: Andy.Johnson@et.eurofinsus.com	State of Origin: PA	Page: Page 1 of 1
Company: Michael Baker International, Inc.	PWSID:	Analysis Requested		Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard			Preservation Codes: N - None
City: Moon Township	TAT Requested (days):			
State, Zip: PA, 15108	Compliance Project: Δ Yes Δ No			
Phone: 412-269-6012(Tel) 412-375-3996(Fax)	PO #: Purchase Order Requested			
Email: bmikula@mbakerintl.com	WO #:			Other:
Project Name: DEP Saegertown PFAS	Project #: 18029855			
Site: Saegertown PFAS Site	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8082A, Moisture	PFC_IDA - PFAS by 537 IDA	8082A - PCBs by 8082A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
IDW-SOIL-0425	4/3/25	1230	C	Solid	N	N	X	X		2	
IDW-AQ-0425	4/3/25	1240	C	Water	N	N		X	X	4	

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
B. Mikula	4/3/25 1800	MBI			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/7/25 12:20	Company ECET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 12: 10.8 C: 10.8

HH

Login Sample Receipt Checklist

Client: Michael Baker International, Inc.

Job Number: 180-188862-1

Login Number: 188862
List Number: 1
Creator: Johnson, Andy

List Source: Eurofins Pittsburgh

Question	Answer	Comment
The cooler's custody seal is intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).		
Cooler Temperature is recorded.		
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).		
WV: Container Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
There are no discrepancies between the containers received and the COC.		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
There is sufficient vol. for all requested analyses.		
Is the Field Sampler's name present on COC?		
Sample custody seals are intact.		
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?		

Login Sample Receipt Checklist

Client: Michael Baker International, Inc. Job Number: 180-188862-1

Login Number: 188862 **List Source: Eurofins Lancaster Laboratories Environment Testing, LLC**
List Number: 2 **List Creation: 04/08/25 08:33 PM**
Creator: Metzger, Katherine A

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	True	
WV: Container Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	Not present.
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

ATTACHMENT G

Waste Disposal Manifests

WEIGHED ON A FAIRBANKS SCALE

TICKET NUMBER 301
CUSTOMER'S NAME RED MEADVILLE
ADDRESS _____
COMMODITY BOX # 10114 442
CARRIER _____

INBOUND 20560 lb
LOOP ID 303

INBOUND DATE 4/11/25 TIME 02:51 PM
OUTBOUND DATE 4/11/25 TIME 03:02:39 PM

20560 lb GR
19780 lb TA
780 lb NT
0.39 ton
LOOP ID 303

DRIVER ON _____ OFF _____

SHIPPER _____

WEIGHER _____

FAIRBANKS SCALE CAT. 96756

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number [illegible] CESQG	2. Page 1 of 1	3. Emergency Response Phone 440-992-7906	4. Waste Tracking Number 52825

5. Generator's Name and Mailing Address: ATTN: JOHN MORETTINI
PADEP
230 CHESTNUT STREET MEADVILLE PA 16335
Generator's Phone: (814)332-6666

Generator's Site Address (if different than mailing address):
SAEGERTOWN SITE
603 ERIE ST,
SAEGERTOWN PA 16433

6. Transporter 1 Company Name: PENN OHIO CORPORATION — U.S. EPA ID Number: OHR000028837

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: MICHIGAN DISPOSAL WASTE TREATMENT
49350 N. I-94 SERVICE DRIVE BELLEVILLE MI 48111
Facility's Phone: (800)592-5489 — U.S. EPA ID Number: MID000724831

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
GENERATOR	1. NON-RCRA, NONDOT REGULATED LIQUID (WATER)	1	TP	0250	G	029L PFA3
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1. E25-8158-MDI WID: 66841PW
Line 9.1 Transferred into 1 tote at transporter. RP

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Chris Rupert for PADEP — Signature: [signature] — Month 05 Day 28 Year 25

INTL
15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter Signature (for exports only):

TRANSPORTER
16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: James D Lewis — Signature: [signature] — Month 05 Day 28 Year 25
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY
17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☒ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
OK to update Qty & Type per Debbie Johnson @ Penn Ohio 6-5-25
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Olivia Raymond — Signature: Olivia Raymond — Month 5 Day 28 Year 25

169-BLC-O 5 11977 (Rev. 9/09) DESIGNATED FACILITY TO GENERATOR

20876954

OR 6/2/25

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number PAD027473264 N/A	2. Page 1 of 1	3. Emergency Response Phone 440-992-7906	4. Waste Tracking Number 55258

GENERATOR

5. Generator's Name and Mailing Address: PADEP ATTN: JOHN MORETTINI
230 CHESTNUT STREET MEADVILLE PA 16335
Generator's Phone: (814)332-6666

Generator's Site Address (if different than mailing address): SAEGERTOWN SITE
503 ERIE ST,
SAEGERTOWN PA 16433

6. Transporter 1 Company Name: PENN OHIO CORPORATION — U.S. EPA ID Number: OHD000028827

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: EQ/WAYNE DISPOSAL INC. SITE #2 LAND
49350 N. I-94 SERVICE DRIVE BELLEVILLE MI 48111
Facility's Phone: (800)592-5489 — U.S. EPA ID Number: MID048090633

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-RCRA, NONDOT REGULATED SOLID (SOIL)	0011	DM	6600	P	PPAS
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
1. E25-3194-WDI WID: 6684193

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Chris Rupree for PADEP — Signature — Month 5 Day 28 Year 25

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James D Lewis — Signature — Month 5 Day 28 Year 25

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☒ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

OK to Update Perchlerk Ferrick w/ AWMSI — Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Olivia Raymond — Signature — Month 6 Day 2 Year 25

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

20855451