OBG|Baker Environmental Solutions Joint Venture

GROUNDWATER MONITORING REPORT
FINAL

SAEGERTOWN PFAS SITE

CRAWFORD COUNTY, PENNSYLVANIA

PADEP Contract No.: SAP4000023226
General Environmental Technical Assistance Contract
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Prepared for:

Commonwealth of Pennsylvania
Department of Environmental Protection

Submitted by:

OBG | Baker Environmental Solutions Joint Venture
Moon Township, Pennsylvania

May 2023

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CRAWFORD COUNTY, PENNSYLVANIA

PADEP Contract No. SAP4000023226
Work Requisition No. 7-6-182

Submitted to:

Commonwealth of Pennsylvania
Department of Environmental Protection
Northwest Regional Office
Environmental Cleanup and Brownfields Program
Hazardous Sites Cleanup Section
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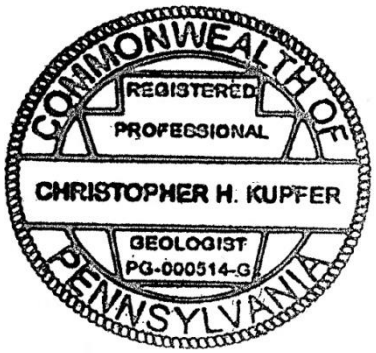
PENNSYLVANIA PROFESSIONAL GEOLOGIST

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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May 23, 2023
Date

1.0 INTRODUCTION

OBG | Baker Environmental Solutions Joint Venture (OBG | Baker) has prepared this Groundwater Monitoring 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. This report presents the sampling methodologies and associated findings from two comprehensive groundwater sampling events completed at the Saegertown PFAS site (site) located in Saegertown Borough, Crawford County, Pennsylvania (Figure 1).

The completion of the two groundwater sampling events presented herein are considered a preliminary step in the ensuing overall Site Investigation to be completed at the site where Per- and Polyfluoroalkyl Substances (PFAS) are a concern from unknown/unconfirmed source(s). The Site Investigation is in response to sampling data from two public water supply wells collected by the Department in 2020 that exhibited elevated PFAS constituents. From this data, the two wells have been taken offline by the Borough and are only to be used in emergency situations.

After evaluation of the groundwater data herein, the focus of the ensuing Site Investigation will be to locate potential PFAS sources, delineate the extent of PFAS impact, identify potential exposure pathways to residents and the environment, and determine possible mitigation or remedial measures.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Site Description

The site is in a former industrial park on Erie Steet in the Borough of Saegertown, Crawford County, Pennsylvania. Within the site, Saegertown Borough owns a 4.5-acre property where two public water supply wells (PW-6 and PW-7) are located (Figure 2). These wells are two of the seven source wells (PW-1 through PW-7) that supply the Saegertown Borough public water supply system which serves a population of approximately 1,500 people, businesses, industries, and 380 service connections. It should be noted that public water supply wells PW-3, PW-4, and PW-5 are not shown on site figures as their locations are a significant distance from the investigation area. Because of their outlier locations, there does not appear to be a present concern over PFAS impact to these three public supply wells as these wells were sampled by the Safe Drinking Water Program in 2020 and had no PFAS detections.

2.2 Site Background

The property was formerly owned by the General American Transportation Company (GATX) and had been declared a U.S. Environmental Protection Agency (EPA) Superfund Site in 1993 until a remedial action was completed in 1996, and the site was delisted in 1997. The property is within the historical boundaries of the Saegertown Industrial Area Superfund Site but is on a parcel that was remediated by EPA and released for unrestricted use. The remaining active portion of the Superfund Site is the adjacent Parker/Lord property to the south. The Department is aware that Parker/Lord Corporation (Parker/Lord) has Chlorinated Volatile Organic Compound (CVOC) groundwater contamination but cannot confirm if they also have PFAS contamination. Parker/Lord routinely uses approximately 90% 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 (with oversight by the EPA) for construction in July 2010, and for operation in October 2011.

Although it was reported that former sludge ponds were remediated by the EPA (see Figure 2), the Department believes these are points of interest that warrant further investigation. The sludge pond source is 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 (BOL).

The results of the sampling indicated a PFOS concentration of 187.1 nanograms per liter (ng/L = parts per trillion [ppt]) and a PFOA concentration of 5.5 ng/L 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 (192.6 ng/L) exceeded the EPA's Combined Lifetime Health Advisory Level (HAL) for PFOS and PFOA of 70 ng/L. None of the Borough's other entry points had detections of PFAS.

Confirmation samples also were collected from both PW-6 and PW-7 in November 2020 by the Borough with both wells continuing to exhibit 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 and also was directed to initiate quarterly groundwater monitoring.

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 ng/L and PFOA levels of Non-Detect (ND) for a total of 120 ng/L of PFAS. This total confirmed an exceedance of the EPA HAL for PFOS and PFOA at Entry Point 105 receiving water from PW-6.

PFAS levels in Saegertown Borough Public Water Supply Well #6 (PW-6 on Figure 2) have been decreasing and could be attributed to a reduced pumping rate as it is likely the PFAS contaminants were being drawn toward the well while in operation. Wells PW-6 and PW-7 are currently offline and are only used in high demand since testing positive for PFAS. Although others are used, wells PW-1 and PW-2 are the primary producers of groundwater in the interim.

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 (consultant to Saegertown Borough). 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 have been collected from a spigot in the adjacent fire department building (note that a new sample port was installed prior to chlorination for OBG | Baker groundwater monitoring in October 2022). Observation wells (e.g., OB-7-50) near pumping wells PW-6 and PW-7 were installed to monitor drawdown when pumping tests were performed on the wells. Pumping tests were part of the drinking water permit process and not part of the historical PFAS sampling.

A Department presentation during the project kickoff with OBG | Baker described potential PFAS sources as the firefighter training area (adjacent to fire department) and former sludge lagoons. The fire department claims to have no information on any historical firefighting foam used in training exercises. A fire-fighting foam tank on a small trailer (assume non PFAS containing foam) was observed at the fire station inside the building during the project kickoff meeting. The Department did not rule out there could be other PFAS sources in the site area.

3.0 GROUNDWATER MONITORING

At the direction of the Department, OBG | Baker was instructed to sample the 14 wells listed below and shown on Figure 2 as part of the groundwater monitoring activities. Note that an alternative well name is shown in the parentheses.

- Saegertown Borough Public Water Supply Well #1 (PW-1)
- Saegertown Borough Public Water Supply Well #2 (PW-2)
- Saegertown Borough Public Water Supply Well #6 (PW-6)
- Saegertown Borough Public Water Supply Well #7 (PW-7)
- Saegertown Borough Monitoring Well 'OB-6-50'
- Saegertown Borough Monitoring Well 'OB-6-100'
- Saegertown Borough Monitoring Well 'OB-7-50'
- Saegertown Borough Monitoring Well 'OB-7-100'
- Saegertown Borough Monitoring Well (MW-1)
- Parker/Lord Monitoring Well MW-24S (GM-24S)
- Parker/Lord Monitoring Well MW-24D (GM-24I)
- Parker/Lord Monitoring Well MW-15S (GM-15S)
- Parker/Lord Monitoring Well MW-15D (GM-15D)
- Saegertown Beverage Well (SBW)

At the request of the Department, two groundwater sampling events were included in the groundwater monitoring scope of work. Both sampling events included all 14 of the wells cited above and were completed in October 2022 and January 2023.

At the request of Parker/Lord, samples from select wells in the above list were split for both groundwater sampling events between OBG | Baker and their consultant, Arcadis US, Inc. (Arcadis) of Wexford, PA. The request was to split samples from wells MW-24S (a.k.a., GM-24S), MW-24D (a.k.a., GM-24D), MW-15S (a.k.a., GM-15S), and MW-15D (a.k.a., GM-15D). The Borough also split samples with the Department on the first sampling event.

3.1 Laboratory Analyses

All groundwater samples were analyzed for 24 PFAS analytes and hexafluoropropylene oxide dimer acid ammonium salt (GenX) using USEPA Method 527 IDA (Index Decomposition Analysis) with low-level detections. The laboratory also performed 'Total Oxidizable Precursors (TOP) assay' testing (Method 537 TOP and 537 IDA) to further identify PFAS parameter precursors and total fluorine (Method ELLE SOP) to identify gross fluorine availability in the investigation area. These two analyses were completed only on the first round of sampling.

Since the 24 PFAS and GenX parameter list is a small fraction of the total picture, the TOP assay results aid to complete the mass balance for PFAS. In addition, the total fluorine results aid in completing the mass balance evaluation by calculating the extractable organic fluorine and

adsorbable organic fluorine measurements. The TOP assay can help determine the concentration of innumerable PFAS that cannot be covered by current conventional analytical methods.

3.2 Groundwater Sampling Methodology

Multiple sampling methodologies were used to collect the samples from the 14 wells based on their construction and appurtenances. Regardless of the sample collection methodology, special care was taken when sampling for PFAS constituents. Some typical sampling equipment / materials and personnel protective equipment are known to contain PFAS and were not used during the sampling activities.

A PFAS Sampling Checklist and sample collection considerations page were provided in the Groundwater Monitoring Work Plan (OBG | Baker, July 2022) for field personnel to follow both before and in the field. The considerations and checklist were reviewed, implemented, and signed by the field personnel. Copies of the checklists from the two sampling events are provided in Attachment A. The subcontracted laboratory, Eurofins Lancaster Laboratories Environmental Testing, LLC (Eurofins), also was made aware that the scope included PFAS analyses to allow for planning sample collection in the specialized bottleware/caps and internal specialized equipment for the analyses.

Prior to initiating sample collection, a complete round of groundwater levels was measured in each well, if possible. For pumping wells PW-6, PW-7 and the Saegertown Beverage supply well (SBW), water levels were not collected for concern over having the meter probe lodging in the well casing with the pump housing and being unable to retrieve. Total well depths were also measured in each well, also excluding the three pumping wells cited above. Groundwater elevation measurements from the October 2022 sampling event are provided on Table 1 and from the January 2023 sampling event on Table 2.

3.2.1. Pumping Well Sample Collection

Representative groundwater samples from the four Saegertown public supply wells (PW-1, PW-2, PW-6, and PW-7) and the SBW well were collected from sample taps along each well's piping effluent. Because sampling of the pumping wells needed to be collected prior to in-line chlorination treatment, sample taps were installed on each well's effluent line prior to treatment introduction. The taps of the four PW wells cited above were installed by Saegertown Borough's consultant (Groundwater Resources, LLC).

The collection at the taps was easily completed as all five of the wells have above-grade pumping systems and discharge lines housed in small buildings (tap for SBW is on ground floor of operations building). Before sample collection, it was again confirmed that all installed sample taps were in line prior to the chlorination treatment of the pumping effluent. At each of these five well locations, the pump will be allowed to run for several minutes prior to collecting a representative

sample into the appropriate sample containers supplied by the laboratory. Field personnel estimated the pumping timeframe by the well's construction and also the appearance of the effluent.

Water Quality Parameters (WQPs) including pH, Oxidation-Reduction Potential (ORP), specific conductance, dissolved oxygen, temperature, and turbidity were collected from each of the pumping wells after sample collection for both sampling events and were recorded in the field logbook.

It should be noted that since supply well PW-6 and PW-7 share the same effluent discharge piping and sample tap ("EP-105"), the Saegertown Borough consultant was on site during both rounds of sampling and was responsible for operating each of the pumps individually to allow OBG | Baker personnel to collect the representative groundwater samples from the one sample tap prior to chlorination.

3.2.2 Monitoring Well Sample Collection

In addition to the five pumping wells cited above, an additional nine wells also were included in the two rounds of groundwater sampling. These wells included OB-6-50, OB-6-100, OB-7-50, OB-7-100, MW-1 (a.k.a., Saegertown Borough Test Well), MW-15S, MW-15D, MW-24S, and MW-24D. Monitoring wells MW-1, MW-15S, MW-15D, MW-24S, and MW-24D were all constructed of 2-inch diameter PVC well screen and riser materials allowing for the use of low-flow sampling techniques. However, wells OB-6-50, OB-6-100, OG-7-50, OB-7-100 were constructed of 1-inch diameter well screen and riser materials as they were installed as piezometers to monitor drawdown in PW-6 and PW-7 during pumping tests. Because of their minimal diameter and construction, dedicated disposable bailers were used to purge and samples these wells for both the October 2022 and January 2023 sampling events.

For the wells purged and sampled using low-flow sampling techniques (MW-1, MW-15S, MW-15D, MW-24S, and MW-24D), a submersible bladder pump (with dedicated and disposable inner bladder) was lowered to the approximate mid-point of the well's screened interval. A weighted water level meter was used to measure the total well depths and calculated midpoints (see Table 1 for well survey and construction data).

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, WQPs (pH, ORP, specific conductance, dissolved oxygen, temperature, 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 WQP 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.

Upon WQP stabilization, the groundwater samples were collected from the end of the pump tubing and placed into appropriate, laboratory-supplied containers. Summaries of the final WQP readings from the October 2022 sampling event are provided on Table 3 and from the January 2023 sampling event on Table 4.

Once the WQPs stabilized, the appropriate sample containers were filled and subsequently placed on ice in a cooler immediately after collection for overnight shipment via FedEx to Eurofins in Lancaster, PA. Each groundwater sample was analyzed for 24 PFAS and GenX using USEPA Method 537 IDA analysis. The 24 PFAS and GenX constituents analyzed are summarized on Table 5. 'Top Assay' analysis using Method 537 TOP and 537 IDA, and Adsorbable Organic Fluorine (AOF) analysis using Method 'ELLE SOP' also were performed on only the first round of samples.

It should be noted that in instances where non-dedicated, non-disposable sampling equipment was used (e.g., submersible bladder pump), all equipment that contacted groundwater was decontaminated before the purging / sampling of the well. Decontamination activities were performed to mitigate the potential for cross contamination between wells during groundwater monitoring.

Each piece of non-dedicated, non-disposable sampling equipment that contacted the groundwater was decontaminated by placing the equipment in a bucket filled with non-phosphate soap and laboratory-suppled, PFAS-free water and scrubbed thoroughly followed by a thorough rinse with additional PFAS-free water. These decontamination fluids were containerized for later characterization and appropriate disposal (see Section 6.0). If dedicated or disposable purge equipment was used (e.g., disposable bailer), no decontamination of equipment was needed between wells.

3.3 Quality Assurance/Quality Control

In addition to the groundwater and waste profile samples designated for laboratory analysis, Quality Assurance / Quality Control (QA/QC) samples also were collected for analysis from both sampling events. The analytical suite for the QA/QC samples was consistent with the associated investigative samples. A description of the QA/QC samples collected during the sampling activities is provided below.

Duplicates: Duplicate analytical samples were collected at an approximate rate of ten percent of investigative samples per sampling media, per sampling event. Therefore, a total of two duplicate samples (PW-7 DUP of sample PW-7 and MW-1 DUP of sample MW-1) were collected from the October 2022 sampling event, and two duplicate samples (PW-2D [or PW-2 DUP] of sample PW-2 and OB-7-100D [or OB-7-100 DUP] of sample OB-7-100) were collected from the January 2023 event.

Field Blanks – To document both the quality of the PFAS-free, certified water used for the decontamination activities, verify laboratory analysis integrity, and document the quality of the water provided by the laboratory, a total of two field blanks were collected as part of the sampling activities. One PFAS-free, certified water field blank (FB-1) was collected for analysis during the October 2022 sampling event, and another (FB-2) was collected during the January 2023 event.

The field blanks were collected during each of the two groundwater sampling events by pouring laboratory-grade, PFAS-free, certified water (supplied by the laboratory) into the appropriate sample containers for laboratory analyses. Since collected while on site, the analysis of the field blanks from each event also is used to evaluate site conditions (air quality) during sampling with respect to constituents of concern.

Equipment Rinsates: To document sufficient decontamination practices of non-disposable sampling equipment, one equipment rinsate sample was collected for each non-disposable sampling device used during each of the two sampling events. The number of equipment rinsate samples was based on an approximate rate of five percent of investigative samples (1 for every 20 samples collected). Rinsate samples were collected using PFAS-free, certified water supplied by the laboratory.

One equipment rinsate sample (RB-1) was collected for laboratory analysis from the October 2022 sampling event and another (RB-2) was collected during the January 2023 sampling event. The equipment rinsate samples were collected from the submersible bladder pump used for purging and sampling of the wells by pouring the PFAS-free, laboratory-grade water over the decontaminated pump and collecting the rinsate into the appropriate sample containers.

MS/MSD Samples: Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples were prepared in the field using the same procedures as duplicate samples and analyzed for the same parameters as the corresponding original samples. MS/MSD samples were prepared at a frequency of

approximately five percent for each group of samples of a similar matrix. Therefore, one MS and one MSD sample were collected from the October 2022 sampling event (PW-2 MS / PW-2 MSD) and one from the January 2023 sampling event (PW-1 MS / PW-1 MSD). The laboratory used the samples for internal QA/QC. In addition, the results were used to evaluate the matrix effect of the sample upon the analytical methodology.

Trip Blanks: Although not included in the Work Plan, one trip blank (TB-1) was inadvertently collected and submitted for analysis from the October 2022 sampling event. The sample was submitted to accompany the waste profile sample that had Volatile Organic Compounds (VOCs) analysis as part of the extensive waste profile analyte suite. Due to the nature of the PFAS investigation, it was agreed between the Department and OBG | Baker that the analysis of the trip blank was not warranted for this initial scope of work.

3.4 Site Survey

With limited survey data available for the 14 wells included in the groundwater monitoring, the Department requested that OBG | Baker include a survey of the wells in the scope of work. All 14 of the wells included in the sampling activities were surveyed on October 3, 2022, concurrent with the first round of groundwater sampling. The surveying activities were conducted under the direction of a OBG | Baker professional land surveyor licensed to practice surveying in the Commonwealth of Pennsylvania.

The well survey activities under this task included locating the horizontal position and establishing elevations of the monitoring and pumping wells. The horizontal data was calculated to the nearest 0.1-foot and referenced to the Pennsylvania State Plane Coordinate System, North American Datum (NAD) 1983. The vertical data was calculated to the nearest 0.01-foot and referenced to the North American Vertical Datum (NAVD) 1988.

Each of the monitoring wells was opened and assessed for competency and functionality. Because most of the wells were locked, OBG | Baker arranged with the Department to have an applicable representative (e.g., Groundwater Resources, LLC) unlock the wells and remove the caps to allow for an adequate survey and collection of representative groundwater levels in the wells. No meters were lowered into any of the pumping wells to avoid possible entanglement with the pumping equipment installed in the wells. Consequently, only the Northing / Easting survey coordinates and top-of-steel casing elevations were surveyed for the five pumping wells (PW-1, PW-2, PW-6, PW-7, and SBW).

A water level indicator and well depth tape were used to document the depth to groundwater and total well depth in each monitoring well in the field notebook. These measurements are summarized on Tables 1 and 2 for the two sampling events.

4.0 LABORATORY ANALYTICAL RESULTS

As noted previously, all groundwater samples were analyzed for the designated 24 PFAS analytes, GenX, TOP assay, and total AOF for the initial groundwater sampling event in October 2022. TOP assay and total AOF analytical results from the October 2022 sampling event were sufficient for the site evaluation, therefore after collaboration with the Department, these analyses were not included in the second round (Round 2 of 2) of sampling completed in January 2023.

The 24 PFAS and GenX constituents analyzed are summarized on Table 5. The detailed laboratory analytical reports are included as Attachment B. The TOP assay testing was performed to further identify PFAS parameter precursors. Since the 24 PFAS parameter list is a small fraction of the total number of PFAS constituents manufactured, the TOP assay results help to complete the mass balance for PFAS. This can help determine the concentration of innumerable PFAS that cannot be covered by conventional analytical methods.

The total AOF analysis was performed to identify gross fluorine availability in the investigation area. The fluorine value aids in completing the mass balance evaluation by calculating the extractable organic fluorine and adsorbable organic fluorine measurements. Essentially, AOF can be considered an initial screening tool that provides a fast overview of the actual amount of organic fluorinated compounds present in groundwater.

4.1 Criteria for Analytical Results Evaluation

On June 15, 2022, EPA issued final Health Advisory Limits (HALs) for two additional PFAS constituents, Hexafluoropropylene Oxide (HFPO) dimer acid and its ammonium salt (referred to as 'GenX' chemicals and Perfluorobutane Sulfonic Acid and its Potassium Salt (PFBS). The HAL was set at 10 ng/L for GenX and 2,000 ng/L for PFBS. These two new PFAS HALs were added because in chemical and product manufacturing, GenX chemicals are considered a replacement for PFOA, and PFBS is considered a replacement for PFOS. These updated HALs will remain in place until EPA establishes a National Primary Drinking Water Regulation.

On January 14, 2023, the PFAS Maximum Contaminant Levels (MCLs) were published in the Pennsylvania Bulletin setting the MCLs for PFOA and PFOS in drinking water at 14 ng/L and 18 ng/L, respectively. At the request of the Department, the HALs cited above for GenX and PFBS and the MCLs for PFOA and PFOS were used in the data evaluation from both groundwater sampling events.

4.2 October 2022 Sampling Event

The initial comprehensive groundwater sampling event (Round 1 of 2) of all 14 wells was completed between October 3rd and October 5th, 2022, following the purging and sampling methodologies described above.

Of the 14 wells sampled, at least one or more of the targeted PFAS constituents (see Table 5 for full list of PFAS constituents analyzed) were detected in 13 of the 14 wells (except MW-1). As summarized on Table 6, PFAS analyte detections ranged from three detections (MW-15D) to 14 detections (OB-7-100). Generally, the pumping wells (PW-6 and PW-7) and surrounding piezometer wells (e.g., OB-6-50) exhibited more PFAS detections (8 to 14 PFAS detections) than the monitoring wells (0 to 7 PFAS detections).

When comparing the analytical results above to the established criteria, exceedances were observed in six of the wells (MW-24S, OB-6-50, OB-7-50, OB-7-100, PW-2, and PW-7).

Of the four PFAS constituents detected in MW-24S (PFBS, perfluorohexanesulfonic acid [PFHxS], PFOS, and PFOA), only the PFOS concentration (38 ng/L) exceeded criteria (18 ng/L).

Of the 13 PFAS constituents detected in OB-6-50 (6:2 Fluorotelomer sulfonic acid [6:2 FTS], PFBS, perfluorobutanoic acid [PFBA], perfluoroheptanesulfonic acid [PFHps], perfluoroheptanoic acid [PFHpA], PFHxS, perfluorohexanoic acid [PFHxA], perfluorononanoic acid [PFNA], PFOS, PFOA, perfluoropentanesulfonic acid [PFPeS], perfluoropentanoic acid [PFPeA], and perfluoroundecanoic acid [PFUnDA], only the PFOS concentration (72 ng/L) exceeded the 18 ng/L MCL.

Of the 13 PFAS constituents detected in OB-7-50 (6:2 FTS, PFBS, perfluorodecanoic acid [PFDA], PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, PFPeA, and PFUnDA), only the PFOS concentration (110 ng/L) exceeded the 18 ng/L MCL.

Of the 14 PFAS constituents detected in OB-7-100 (PFBS, PFBA, PFDA, PFHps, PFHpA, PFHxS, PFHxA, perfluorononanesulfonic acid [PFNS], PFNA, PFOS, PFOA, PFPeS, PFPeA, and PFUnDA), only the PFOS concentration (310 ng/L) exceeded the 18 ng/L MCL. This was the highest PFOS concentration on site during the October 2022 sampling event.

Of the 11 PFAS constituents detected in PW-2 (PFBS, PFBA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, and PFPeA), only the PFOS concentration (23[I] ng/L) exceeded the 18 ng/L MCL.

Of the 12 PFAS constituents detected in PW-7 (PFBS, PFBA, PFDA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, and PFPeA), only the PFOS concentration (290 ng/L) exceeded the 18 ng/L MCL. This was the second highest PFOS concentration on site. The quality control duplicate of the PW-7 sample (PW-7DUP) exhibited similar detections and concentrations with the duplicate sample also exhibiting a 290 ng/L PFOS concentration.

A depiction of the notable PFAS detections and criteria exceedances from the October 2022 sampling event are shown on Figure 3.

4.2.1 Split Sample Analytical Results

As noted previously, Parker/Lord's environmental consultant (Arcadis) split select groundwater samples from the October 2022 sampling event. Samples were split from wells MW-15S, MW-15D, MW-24S, and MW-24D (same wells, different well nomenclature – see earlier note) and were collected only for PFAS analysis. In addition, Arcadis also collected a quality control duplicate sample of MW-24S ('GM-24S DUP') and equipment rinsate samples from the water level meter ('Equip. Water Probe') and the submersible bladder pump ('Equip. Bladder Pump'). The Borough also split samples during the October 2022 sampling event.

To mitigate the chance of artificial PFAS impact to the samples, the Arcadis sample containers were given to the OBG | Baker personnel to fill. The less personnel and equipment around the wellhead during actual sample collection, the better chance of achieving representative analytical data without outside interference.

A summary of PFAS detections from the October 2022 Arcadis analyses is provided on Table 7. Based on the Data Quality Objectives (DQOs) stipulated in the Sampling and Analysis Plan and Quality Assurance Protocols (OBG | Baker, July 2022), the Relative Percent Difference (RPD) in concentrations for most split samples were within the acceptable 20 percent difference between the Arcadis split samples and the OBG | Baker samples. In addition, the lack of PFAS detections in either Arcadis' rinsate from the bladder pump or the water level meter conveys that decontamination practices were sufficient, and no cross contamination occurred between wells being sampled.

It should be noted that the RPD in concentrations between the OBG | Baker samples and the Borough samples (see Tables 6 and 10) were unacceptable (> 20%) for all analytes except for PFNA and PFOS.

4.2.2 TOP Assay Analytical Results

The TOP Assay analysis (537 TOP) can help measure the concentration of non-discrete and difficult to measure PFAS compounds that are not determined by conventional methods. The analysis also can used to determine the potential for additional PFASs to be generated in the future. Current conventional methods for PFAS analysis includes a list of around 70 compounds. There are thousands of PFAS analytes and pre-cursor analytes that labs currently do not have the ability to analyze. These undistinguished analytes may be converted into the persistent perfluorinated alkyl substances (e.g., PFOA) under certain conditions in the environment. The TOP assay analysis transforms precursors to dead end perfluoroalkylic acids.

The TOP assay analytical results are summarized on Table 6 (537 TOP). Generally, the TOP assay results were as expected. In wells known to exhibit elevated PFAS concentrations (e.g., 310 ng/L PFOS in OB-7-100), these wells also exhibited elevated TOP assay concentrations (e.g., 360 ng/L

PFOS in OB-7-100). As noted above, this would appear to indicate that there may be notable increases in PFOS levels in the well in the future from the available load degrading in the aquifer. Conversely, well MW-1 exhibited no PFAS or TOP assay detections in October 2022. This data conveys that not only are there currently no identifiable PFAS constituents in MW-1, PFAS levels are not expected to rise in the well from precursor degradation in the future.

In addition to the TOP assay results summarized on Table 6, total Perfluorinated Carboxylic Acid (PFCA) concentrations are also provided for each groundwater sample. The TOP assay method initially extracts a sample and determines the concentration of select PFCA analytes to get the baseline of the sample. Next, a second sample is extracted and oxidized. The oxidation process converts the unknown PFAS precursor compounds into the PFCA analytes. Once the oxidized extracts are tested, the difference between the pre-oxidation and post-oxidation results is calculated for the six individual PFCA constituents and also for total PFCAs.

A larger (relative) delta indicates there are large concentrations of Perfluoroalkyl Acids (PFAA) precursor compounds that can degrade/oxidize naturally and increase the PFAS load in the sample over time. Conversely, a smaller (relative) delta between the pre- and post-results likely indicates that there are a limited number of PFAA precursors available to increase PFAS levels in the future. Using the wells cited above as an example, well OB-7-100 exhibited a delta of 17 ng/L between the total PFCA pre-oxidation concentration (47 ng/L) and the PFCA post-oxidation concentration (64 [J] ng/L). This (relative) large delta would indicate sufficient available PFAA precursors in the area to increase the PFAS load over time. Conversely, MW-1 exhibited no PFCA concentrations in either the pre- or post-oxidation sample. From this, it can be inferred that there is little to no available precursors to become PFAS constituents in the future in this well.

4.2.3 Total Adsorbable Organic Fluorine Analytical Results

The total AOF analysis was performed to identify gross fluorine availability in the investigation area. Essentially, AOF can be considered an initial screening tool that provides a fast overview of the actual amount of organic fluorinated compounds present in groundwater. Total AOF analytical results are summarized on Table 6.

As shown on the table, AOF values (micrograms per liter [ug/L]) do not directly correlate to PFAS or TOP assay concentrations in the wells. As an example, the highest AOF concentrations in October 2022 were exhibited in wells MW-1 (13 ug/L), MW-24D (10 ug/L). Although these two wells exhibited little to no PFAS or TOP assay detections, both AOF concentrations were approximately five times greater than any other AOF concentration. However, the third highest AOF concentration (not counting duplicates) was exhibited in well OB-7-100 (2.5 ug/L), and it exhibited the highest PFAS concentration during the October sampling event. A Similar AOF concentration (2.4 ug/L) was exhibited in PW-2, but the PFAS and TOP assay concentrations in October were some of the lowest observed during the sampling event. From this, it is obvious that AOF is just an indicator of possible PFAS, and concentrations don’t necessarily reflect actual

PFAS concentrations as it's only an indicator that organic fluorine exists and is needed in order to generate PFAS compounds.

4.2.4 Quality Assurance/Quality Control

As presented in Section 3.3, two duplicate groundwater samples were collected from the October 2022 sampling event. The quality control duplicate sample of MW-1 (MW-1 DUP) exhibited near identical results to the investigative sample. Similarly, the quality control duplicate sample of PW-7 (PW-7 DUP) also exhibited similar concentrations to the investigative sample and were within the targeted RPD of 20% for all analyte detections.

One field blank (FB-1) was collected during the October 2022 sampling event. No PFAS constituents were detected in the sample. However, there were small detections of PFHxA at 8 (J) ng/L and PFOA at 3.3 (J)(B) ng/L in the TOP assay results. Based on the limited detections elsewhere and these analytes not being detected in the 537 IDA analysis, their low level detections in the TOP assay sample are not a concern with impacting sample integrity during collection. The field blank analytical results have not been tabulated due to the minimal detections but can be located in Attachment B (Laboratory Analytical Reports).

One equipment rinsate blank (RB-1) was collected from the decontaminated submersible pump used during the October 2022 sampling event. Because no PFAS constituents were detected in the sample, it can be concluded that no cross contamination took place between wells during the October 2022 sampling event. Consistent with the field blank results presented above, the rinsate blank analytical results also have not been tabulated due to the lack of detections but can be located in Attachment B (Laboratory Analytical Reports).

As noted in Section 3.3, one trip blank (TB-1) was inadvertently collected and submitted for analysis. The sample was submitted to accompany the waste profile sample (IDW-1) that had VOCs as part of the extensive waste profile analyte suite. No VOCs were detected in the sample (see Attachment B) conveying that the waste profile sample did not appear to be affected by outside VOC impact during shipment to the laboratory for analysis.

4.3 <u>January 2023 Sampling Event</u>

The second comprehensive groundwater sampling event of all 14 wells (Round 2 of 2) was completed between January 9th and January 11th, 2022, following the purging and sampling methodologies used during the October 2022 sampling event. TOP assay and AOF analyses were not completed for the second groundwater sampling event as the data from the October 2022 sampling event was adequate for its purpose.

Of the 14 wells sampled, at least one or more of the targeted PFAS constituents were detected in 13 of the 14 wells (except MW-1). As summarized on Table 8, PFAS analyte detections ranged

from one detection (MW-24D) to 14 detections (OB-7-50 and OB-7-100). Generally, and consistent with the October 2022 sampling event, the pumping wells and surrounding piezometer wells (e.g., OB-6-50) exhibited more PFAS detections than the monitoring wells.

When comparing the January 2023 analytical results to established criteria, exceedances were observed in six of the wells (OB-6-50, OB-7-50, OB-7-100, PW-2, PW-7, and SBW). Exceedances were not reported in the SBW well in October 2022.

Of the 12 PFAS constituents detected in OB-6-50 (PFBS, PFBA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, PFPeA, and PFUnDA), only the PFOS concentration (90 ng/L) exceeded criteria (18 ng/L).

Of the 14 PFAS constituents detected in OB-7-50 (6:2 FTS, PFBS, PFBA, PFDA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, PFPeA, and PFUnDA), only the PFOS concentration (130 ng/L) exceeded the 18 ng/L MCL. This was the second highest PFOS concentration on site during the January 2023 sampling event (excluding duplicates).

Of the 14 PFAS constituents detected in OB-7-100 (6:2 FTS, PFBS, PFBA, PFDA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, PFPeA, and PFUnDA), only the PFOS concentration (460 ng/L) exceeded the 18 ng/L MCL. This was the highest PFOS concentration on site during the January 2023 sampling event (and also during the October 2022 sampling event [310 ng/L]). The quality control duplicate (OB-7-100D) from this well exhibited similar detections and concentrations with the only criteria exceedance being PFOS at 410 ng/L.

Of the 11 PFAS constituents detected in PW-2 (PFBS, PFBA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, and PFPeA), only the PFOS concentration (60 ng/L) exceeded the 18 ng/L MCL. The quality control duplicate sample from this well (PW-2D) exhibited similar detections and concentrations with the only criteria exceedance being PFOS at 61 ng/L.

Of the eight PFAS constituents detected in PW-7 (PFBS, PFHps, PFHxS, PFHxA, PFOS, PFOA, PFPeS, and PFPeA), only the PFOS concentration (60 ng/L) exceeded the 18 ng/L MCL.

Of the 11 PFAS constituents detected in the SBW well (PFBS, PFBA, PFHps, PFHpA, PFHxS, PFHxA, PFNA, PFOS, PFOA, PFPeS, and PFPeA), only the PFOS concentration (34 [I] ng/L) exceeded the 18 ng/L MCL.

A depiction of the notable PFAS detections and criteria exceedances from the January 2023 sampling event are shown on Figure 4.

4.3.1 Split Sample Analytical Results

As noted previously, Parker/Lord Corporation's environmental consultant (Arcadis) split select groundwater samples from the January 2023 sampling event. Samples again were split from wells MW-15S (GM-15S), MW-15D (GM-15D), MW-24S (GM-24S), and MW-24D (GM-24I) and were collected for PFAS analysis. In addition, Arcadis also collected a quality control duplicate sample of MW-24S and equipment rinsate samples from the water level meter (RB-1) and the submersible bladder pump (EQUIP-BLADDER PUMP).

A summary of PFAS detections from the Arcadis analyses for the January 2023 sampling event is provided on Table 9. Based on the DQOs stipulated in the Sampling and Analysis Plan and Quality Assurance Protocols (OBG | Baker, July 2022), the RPD in concentrations for all split samples were within the acceptable 20 percent difference between the Arcadis split samples and the OBG | Baker samples. (However, PFHxS was detected in the OBG | Baker sample but not the Arcadis sample from MW-15S). In addition, the lack of PFAS detections in either Arcadis' rinsate from the bladder pump or the water level meter conveys that decontamination practices were sufficient, and no cross contamination occurred between wells being sampled.

4.3.2 Quality Assurance/Quality Control

In addition to the investigative groundwater samples collected for analysis, QA/QC samples also were collected as part of the January 2023 sampling activities. Two duplicate quality control samples were collected during the January 2023 sampling event (OB-7-100D from OB-7-100 and PW-2D from PW-2). The duplicate (OB-7-100D) from OB-7-100 exhibited similar detections to the investigative sample, but some of the analytes did not meet the targeted RPD of 20% (e.g., PFBS RPD > 25%) while others did (e.g., PFOS RPD < 15%). The duplicate (PW-2D) of PW-2 exhibited similar detections and concentrations to the associated investigative sample with the targeted RPD met for all detected analytes.

One PFAS free certified water field blank (FB-2) was collected for analysis during the January 2023 event. No PFAS constituents were detected in the field blank sample. The field blank analytical results have not been tabulated due to the lack of detections but can be located in Attachment B (Laboratory Analytical Reports). These analytical results convey that the water source was adequate for the investigation and did not affect the quality or accuracy of the investigative samples.

One equipment rinsate sample (RB-2) was collected for laboratory analysis from the January 2023 sampling event. The equipment rinsate sample was collected from the submersible bladder pump used for purging and sampling of wells by pouring the PFAS-free, laboratory-grade water over the decontaminated pump and collecting the rinsate into the appropriate sample containers. No PFAS constituents were detected in the rinsate blank conveying that sample integrity was not compromised with respect to potential cross contamination between wells from the sampling

equipment. Consistent with the field blank results presented above, the rinsate blank analytical results also have not been tabulated due to the lack of detections but can be located in Attachment B (Laboratory Analytical Reports).

4.4 Historical Groundwater Monitoring Evaluation

At the request of the Department, historical sampling results from applicable site wells were evaluated against the two recent groundwater sampling events completed by OBG | Baker. The samples were collected by Saegertown Borough's consultant (Groundwater Resources, LLC). The historical groundwater results are summarized on Table 10. The focus of the discussion is primarily on PFOS as this continues to be the analyte to exceed criteria (18 ng/L) in most wells.

With respect to pumping well PW-6 (sample listed as EP-105 Well #6 on the table), PFAS concentrations have oscillated up and down but exhibited an overall decrease from 2020 through February 2023. In the borough samples, PW-6 PFOS concentrations decreased from 187.1 ng/L in October 2020 to 4.6 ng/L in October 2022 and rebounded modestly to 12 ng/L in February 2023. The last two sampling events by the borough were similar to the OBG | Baker samples from the same approximate timeframe in that PW-6 exhibited a significant decrease in PFOS levels from late 2020 to early 2023. The overall decrease in PFOS levels in PW-6 is likely attributed to the well no longer being pumped pulling the PFAS contaminant plume into the well's capture zone of influence.

The PFOS concentration (170 ng/L) in the November 2020 borough sample of PW-7 conveys the overall decrease in concentrations in the well with a OBG | Baker PFOS concentrations in October 2022 of 290 ng/L and 60 ng/L in January 2023. Consistent with PW-6 above, the decrease in PFOS levels in PW-7 is likely attributed to the well no longer being pumped pulling the PFAS contaminant plume into the well's capture zone of influence.

With respect to MW-1, only one historical sampling event was available for review. The March 2021 sampling event of the well exhibited no PFAS detections. Both the October 2022 and January 2023 sampling events also exhibited no PFAS detections.

The only other well on site with historical groundwater sampling results is the SBW well. Low level PFAS detections were detected by the borough in June 2021 (PFOS: 0.664 ng/L; PFOA: 3.1 ng/L) with a notable increase during the subsequent sampling event in July 2022 (PFOS: 40.3 ng/L; PFOA: 18.8 ng/L, both exceeding criteria). However, this increase in historical concentrations does not appear to be evidence of an upward trend. The PFOS concentrations decreased in October 2022 in the SBW well and then rebounded in January 2023, whereas the PFOA concentrations continue to decrease from July 2022 through the January 2023 sampling event. It should be noted that the SBW groundwater sample in July 2022 was the only sample collected to date from the site to exhibit a criteria (14 ng/L) exceedance (PFOA: 18.8 ng/L) other than PFOS.

5.0 HYDROGEOLOGY

Two separate groundwater elevation contour maps have been developed for this report from the two groundwater sampling events (October 2022 and January 2023). For both contour maps, groundwater elevation data was not used from the two nested deep wells (MW-15D and MW-24D). Rather, the groundwater elevations from the two shallow wells at these well nests (MW-15S and MW-24S) 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 below ground surface (bgs) and is poor in ground production. As summarized on Tables 1 and 2, depth to the groundwater across the site varies from less than 10 feet to slightly more than 20 feet bgs.

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 5 and 6, it is obvious that the distribution of wells in the site area can only provide a loose interpretation of groundwater flow due to large areas of the site with no groundwater elevation data for use in interpretation of flow. Therefore, the discussion of groundwater flow below is limited in accuracy at this time. The future addition of monitoring wells and/or piezometers will allow for a better understanding of hydrogeology at the site.

A groundwater elevation contour map from the October 2022 sampling event is provided on Figure 5. The figure was generated using the data from the associated Table 1. As shown on the figure, it appears that the overburden groundwater flow direction is to the northwest and north, with flow in some areas almost perpendicular to French Creek. It is not believed that this is truly representative of actual groundwater flow beneath the site as it is not believed there are multiple regional groundwater flow directions with some moving away from the creek (see PW-1 and PW-2 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 in which the site lies.

A second groundwater elevation contour map was generated from the January 2023 sampling event (Figure 6). The figure was generated using the data from the associated Table 2.

Groundwater flow in January 2023 appeared to be more regional when compared to the October 2022 map. Regional groundwater flow is shown to the west and west-southwest toward French Creek. Although the January 2023 flow map appears to be more representative of actual groundwater flow beneath the site, the addition of measurement points through wells or piezometers will allow for better representative mapping in the future.

6.0 INVESTIGAITON-DERIVED WASTE MANAGEMENT

One aqueous waste profile sample (IDW-1) was collected for an extensive analytical suite from the drummed purge water/decontamination fluids from the first sampling event (October 2022). The profile sample was collected during the first sampling event to allow the waste profile and disposal approvals to be in place prior to the second sampling event (January 2023).

A summary of the wastes generated during both well purging and sampling activities is provided below:

- Ancillary wastes (disposable gloves, paper towels, tubing, bailers, etc.) from the well purging and sampling activities that were not believed to pose a threat to the environment were disposed as municipal trash by OBG | Baker at the completion of both sampling events.

- Liquids generated from the decontamination of non-disposable sampling equipment used during the groundwater sampling events were placed in properly-labeled, steel, 55-gallon drums on site for later characterization by OBG | Baker personnel and disposal by the IDW subcontractor.

- All purge water generated from the monitoring well sampling activities was containerized in properly-labeled, steel, 55-gallon drums on site for later characterization and disposal by the IDW subcontractor (same drums as decontamination fluids).

- All purge water generated from the pumping well sampling activities was discharged to the drain in the respective pump house buildings.

At the request of the Department, the drummed purge/development water was stored in a conex box on site until disposal. The conex box and drums were staged at the edge of the gravel parking lot of the Saegertown Borough building.

Due to the high transportation disposal costs for PFAS-impacted water, the one drum of purge water from the October 2022 sampling event remained on site until completion of the January 2023 sampling event. Two drums of aqueous waste were generated from the two sampling events (one from each event) and were transported off site by the disposal contractor (McCutcheon Enterprises, Inc. of Apollo, PA) to the treatment and disposal facility in January 2023. The facility used for the disposal was the Michigan Disposal Waste Treatment Plant located in Belleville, MI. A copy of the disposal manifest is provided in Attachment C.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations below are presented in a bulletized format for ease of review and discussion.

7.1 Conclusions

- Although three of the four of the PFAS constituents (PFBS, PFOA, and PFOS) that currently have established criteria were detected in October 2022 and January 2023, PFOS is the only constituent to exceed criteria (18 ng/L).

- PFOS concentrations in PW-6 and PW-7 have generally decreased from 2020 through the January 2023 sampling event. The decrease in PFOS levels is likely attributed to the wells no longer being pumped pulling the PFAS contaminant plume into the two well's capture zone of influence.

- Because the site is in a large glacial outwash area, the focus for any additional investigative work will be solely on the unconfined overburden aquifer. This is due to the significant production of the overburden aquifer compared to the limited groundwater production of the underlying bedrock (siltstone and shale).

- Limited data points and site proximity provided challenges to fully understanding groundwater flow on site at the present time. Future monitoring points will allow better interpretation of flow that is believed to be towards French Creek at an anticipated oblique angle.

- Based on the proximity of PFAS (primarily PFOS) in groundwater, the possible use of Aqueous Film Forming Foam (AFFF) used for nearby firefighter training may be a potential PFOS contaminant source.

- The three former GATX property sludge lagoons (Figure 2) also may be a PFAS contaminant source based on data from the Department and their proximity to PFAS impact on site.

- With well OB-7-100 exhibiting the highest PFOS concentrations on site and the apparent groundwater flow direction toward French Creek, a notable source area of PFOS impact may be near the Switch-N-Go property to the east.

- The precursor and TOP assay groundwater analytical results indicated that there likely will be increases in already-elevated PFOS levels in impacted wells in the future from the available load to degrade in the aquifer.

7.2 Recommendations

- With PFOS criteria exceedances in groundwater across the site and minimal knowledge on potential source(s) and contaminant migration/flow, an extensive Site Investigation is recommended.

- The Site Investigation should focus not only on likely sources of PFAS impact (e.g., AFFF from training area adjacent to the fire department) but also on potential other PFAS source areas (e.g., former sludge lagoons).

- Due to the size of the site investigation area (approximately 113 acres) and the potential for multiple PFAS source areas, it is recommended that one of the preliminary steps in the investigation is the collection of groundwater grab samples strategically placed across the site. This cost-saving measure to collect data from grab samples will allow better placement of the ensuing groundwater monitoring wells to aid in determining the nature and extent of the PFAS impact.

- Surface and subsurface soil samples are recommended to be collected for PFAS analysis near wells PW-6 and PW-7 to evaluate a potential source in the immediate area of the two wells.

TABLES

Table 1
Groundwater Monitoring Well Survey Data
October 2022
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)			
OB-6-50	573,928.75	1,315,353.33	1,112.11	1,115.14	1,115.10	16.43	1,098.67	31.77
OB-6-100	573,793.29	1,315,342.05	1,112.31	1,115.41	1,115.35	16.40	1,098.95	31.80
0B-7-50	574,060.44	1,315,353.83	1,112.78	1,115.78	1,115.83	17.16	1,098.67	33.95
OB-7-100	574,101.15	1,315,446.32	1,112.71	1,115.80	1,115.82	17.01	1,098.81	38.75
MW-15S	572,531.09	1,314,529.56	N/A	1,109.58	1,109.30	10.45	1,098.85	18.50
MW-15D	572,536.27	1,314,527.42	N/A	1,109.72	1,109.40	11.00	1,098.40	40.00
MW-24S	572,965.15	1,315,074.38	N/A	1,109.58	1,109.27	7.01	1,102.26	11.00
MW-24D	572,964.72	1,315,070.17	N/A	1,109.57	1,109.29	8.65	1,100.64	28.00
MW-1	573,443.77	1,315,991.64	1,121.67	N/A	1,124.79	21.56	1,103.23	50.50
PW-1	574,735.56	1,314,066.48	N/A	1,116.61	N/A	18.55	1,098.06	62
PW-2	574,861.31	1,314,649.62	N/A	1,117.64	N/A	20.28	1,097.36	49
PW-6	573,888.87	1,315,351.63	N/A	1,115.22	N/A	N/A	N/A	60
PW-7	574,102.12	1,315,356.57	N/A	1,115.91	N/A	N/A	N/A	49
SBW	574,858.57	1,314,661.61	N/A	1,114.61	N/A	N/A	N/A	85

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
MSL - Mean Sea Level
TOC - Top of Casing
BGS - Below Ground Surface

Table 2
Groundwater Monitoring Well Survey Data
January 2023
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)			
OB-6-50	573,928.75	1,315,353.33	1,112.11	1,115.14	1,115.10	11.12	1,103.98	31.77
OB-6-100	573,793.29	1,315,342.05	1,112.31	1,115.41	1,115.35	11.22	1,104.13	31.80
0B-7-50	574,060.44	1,315,353.83	1,112.78	1,115.78	1,115.83	11.90	1,103.93	33.95
OB-7-100	574,101.15	1,315,446.32	1,112.71	1,115.80	1,115.82	11.61	1,104.21	38.75
MW-15S	572,531.09	1,314,529.56	N/A	1,109.58	1,109.30	9.13	1,100.17	18.50
MW-15D	572,536.27	1,314,527.42	N/A	1,109.72	1,109.40	10.05	1,099.35	40.00
MW-24S	572,965.15	1,315,074.38	N/A	1,109.58	1,109.27	5.99	1,103.28	11.00
MW-24D	572,964.72	1,315,070.17	N/A	1,109.57	1,109.29	6.72	1,102.57	28.00
MW-1	573,443.77	1,315,991.64	1,121.67	N/A	1,124.79	16.91	1,107.88	50.50
PW-1	574,735.56	1,314,066.48	N/A	1,116.61	N/A	13.40	1,103.21	62
PW-2	574,861.31	1,314,649.62	N/A	1,117.64	N/A	14.22	1,103.42	49
PW-6	573,888.87	1,315,351.63	N/A	1,115.22	N/A	N/A	N/A	60
PW-7	574,102.12	1,315,356.57	N/A	1,115.91	N/A	N/A	N/A	49
SBW	574,858.57	1,314,661.61	N/A	1,114.61	N/A	N/A	N/A	85

N/A - Not Applicable / Not Available
SBW - Saegertown Beverage Well
MSL - Mean Sea Level
TOC - Top of Casing
BGS - Below Ground Surface

Table 3
Summary of Aqueous Field Parameter Data
October 2022 Groundwater Sampling Event
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^o)	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)
Monitoring Well							
OB-6-50	10/4/22	12.8	0.327	7.04	6.60	165.44	204.9
0B-6-100	10/4/22	11.1	0.516	5.78	7.72	29.98	201.3
OB-7-50	10/4/22	12.4	0.406	5.91	7.08	223.55	186.2
OB-7-100	10/4/22	14.0	0.310	7.22	6.73	942.61	195.5
MW-15S	10/5/22	17.4	2.046	5.67	6.44	3.68	171.5
MW-15D	10/5/22	14.3	1.276	2.86	7.35	73.21	-53.5
MW-24S	10/5/22	16.9	0.460	6.12	6.87	4.03	171.8
MW-24D	10/5/22	15.4	1.439	2.02	7.42	18.54	105.2
MW-1	10/5/22	12.1	0.503	0.99	7.86	35.67	-88.1
Pumping Well							
PW-1	10/4/22	12.1	1.386	7.12	7.60	1.68	122.6
PW-2	10/4/22	12.0	1.380	7.10	7.58	1.84	126.1
PW-6	10/4/22	11.8	0.506	6.44	7.26	0.49	134.0
PW-7	10/4/22	16.6	0.362	3.67	8.33	0.94	110.6
SBW	10/4/22	12.9	0.612	6.26	7.46	0.02	358.2

N/A = Not Available/Not Applicable
C^o - degrees Celsius
µs/cm - microsiemens per centimeter
mg/L - milligrams per liter
mV - millivolts
S.U. - Standard Units
SBW- Saegertown Beverage Well
NTU - Nephelometric Turbidity Units

Table 4
Summary of Aqueous Field Parameter Data
January 2023 Groundwater Sampling Event
Saegertown PFAS Site

Well	Date Sampled	Temperature (C^o)	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)
Monitoring Well							
OB-6-50	1/10/23	9.6	0.291	7.17	6.63	29.26	230.6
0B-6-100	1/10/23	10.0	0.466	4.82	7.63	15.76	188.8
OB-7-50	1/9/23	11.0	0.294	6.54	6.99	44.97	233.2
OB-7-100	1/9/23	9.6	0.271	7.71	6.73	158.46	219.9
MW-15S	1/11/23	11.2	0.788	5.02	6.67	5.16	241.9
MW-15D	1/11/23	12.5	1.159	1.89	7.30	22.70	-31.8
MW-24S	1/11/23	10.1	1.406	8.81	6.64	5.85	249.2
MW-24D	1/11/23	12.8	1.741	4.68	7.39	18.60	115.9
MW-1	1/10/23	10.1	0.460	0.17	7.78	37.23	-61.5
Pumping Well							
PW-1	1/10/23	13.1	0.631	8.23	7.51	201.12	205.6
PW-2	1/10/23	11.9	0.671	9.93	7.39	2.56	207.5
PW-6	1/10/23	11.4	0.475	5.28	7.15	2.26	197.9
PW-7	1/10/23	12.2	0.503	1.79	7.53	1.60	46.6
SBW	1/10/23	12.8	0.524	5.13	7.38	1.87	191.9

N/A = Not Available/Not Applicable
C^o - degrees Celsius
µs/cm - microsiemens per centimeter
mg/L - milligrams per liter
mV - millivolts
S.U. - Standard Units
SBW- Saegertown Beverage Well
NTU - Nephelometric Turbidity Units

Table 5
PFAS Constituents Evaluated for Groundwater Monitoring
Saegertown PFAS Site

CAS No.	PFAS Constituent	Acronym
757124-72-4	4:2 Fluorotelomer sulfonic acid	4:2 FTS
27619-97-2	6:2 Fluorotelomer sulfonic acid	6:2 FTS
39108-34-4	8:2 Fluorotelomer sulfonic acid	8:2 FTS
13252-13-6	Hexafluoropropylene Oxide Dimer Acid	HFPO-DA (GenX)
62037-80-3	Hexafluoropropylene Oxide Dimer Acid Ammonium Salt	HFPO-DA Ammonium Salt (GenX)
2991-50-6	N-Ethyl-N-[(heptadecafluorooctyl)sulphonyl]glycine	NEtFOSAA
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA
375-73-5	Perfluorobutanesulfonic acid	PFBS
375-22-4	Perfluorobutanoic acid	PFBA
335-77-3	Perfluorodecanesulfonic acid	PFDS
335-76-2	Perfluorodecanoic acid	PFDA
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	PFTA
72629-94-8	Perfluorotridecanoic acid	PFTrDA
2058-94-8	Perfluoroundecanoic acid	PFUnDA

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

TABLE 6

GROUNDWATER ANALYTICAL DETECTIONS - OCTOBER 2022
SAEGERTOWN PFAS SITE

Sample ID Date		**PADEP MCL/ USEPA HAL**	MW-1 10/5/2022	MW-1 DUP 10/5/2022	MW-15S 10/5/2022	MW-15D 10/5/2022	MW-24S 10/5/2022	MW-24D 10/5/2022	OB-6-50 10/4/2022	OB-6-100 10/4/2022
PFAS (537 IDA) (ng/L) [(1)]										
6:2 Fluorotelomer sulfonic acid	6:2 FTS	NE	3.7 U	3.7 U	3.8 U	4 U	3.8 U	3.9 U	**5.7**	**8.3**
Perfluorobutanesulfonic acid	PFBS	2000	0.43 U	0.44 U	**2.5**	**0.78** JI	**0.89** J	**0.62** J	**2.2**	**0.61** J
Perfluorobutanoic acid	PFBA	NE	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	**6**	1.9 U
Perfluorodecanoic acid	PFDA	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	0.47 U	0.47 U
Perfluoroheptanesulfonic acid	PFHps	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	**0.97** J	0.47 U
Perfluoroheptanoic acid	PFHpA	NE	0.43 U	0.44 U	**0.79** J	0.47 U	0.45 U	0.46 U	**3.1**	0.47 U
Perfluorohexanesulfonic acid	PFHxS	NE	0.43 U	0.44 U	**0.94** J	0.47 U	**8.5**	**1.1** J	**31**	0.47 U
Perfluorohexanoic acid	PFHxA	NE	0.78 U	0.79 U	**1** J	**0.91** J	0.81 U	**1.2** J	**5.9**	0.85 U
Perfluorononanesulfonic acid	PFNS	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	0.47 U	0.47 U
Perfluorononanoic acid	PFNA	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	**0.95** J	0.47 U
Perfluorooctanesulfonic acid	PFOS	18	0.87 U	0.88 U	**2.9**	0.94 U	**38**	0.93 U	**72**	**0.94** JI
Perfluorooctanoic acid	PFOA	14	0.43 U	0.44 U	**2.5**	0.47 U	**1** J	0.46 U	**6.5**	0.47 U
Perfluoropentanesulfonic acid	PFPeS	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	**1.7** J	0.47 U
Perfluoropentanoic acid	PFPeA	NE	0.43 U	0.44 U	**1.2** J	**1.9**	0.45 U	**0.66** J	**6**	0.47 U
Perfluoroundecanoic acid	PFUnDA	NE	0.43 U	0.44 U	0.45 U	0.47 U	0.45 U	0.46 U	**0.49** JI	0.47 U
PFAS (537 TOP) (ng/L) [(2)]										
Perfluorobutanesulfonic acid	PFBS	NE	2.5 U!	2.5 U!	**3.8** J!	2.5 U!	2.5 U!	2.5 U!	**3.2** J!	2.5 U!
Perfluorobutanoic acid	PFBA	NE	10 U!	10 U!	10 U!	10 U!	10 U!	10 U!	**24** J!	10 U!
Perfluoroheptanesulfonic acid	PFHps	NE	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!
Perfluoroheptanoic acid	PFHpA	NE	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	**4.1** JI!	2.5 U!
Perfluorohexanesulfonic acid	PFHxS	NE	2.5 U!	2.5 U!	2.5 U!	2.5 U!	**6.9** J!	2.5 U!	**22** !	2.5 U!
Perfluorohexanoic acid	PFHxA	NE	4.5 U!	4.5 U!	4.5 U!	4.5 U!	**14** I!	4.5 U!	**18** I!	4.5 U!
Perfluorononanoic acid	PFNA	NE	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!
Perfluorooctanesulfonic acid	PFOS	NE	5 U!	5 U!	5 U!	5 U!	**30** !	5 U!	**55** !	5 U!
Perfluorooctanoic acid	PFOA	NE	2.5 U!	2.5 U!	**4.1** JI!	2.5 U!	**3.8** JI!	2.5 U!	**9.3** JI!	**2.7** JI!
Perfluoropentanesulfonic acid	PFPeS	NE	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!
Perfluoropentanoic acid	PFPeA	NE	2.5 U!	2.5 U!	**3.2** J!	**3.1** J!	2.5 U!	2.5 U!	**9.6** J!	**2.6** J!

TABLE 6

GROUNDWATER ANALYTICAL DETECTIONS - OCTOBER 2022
SAEGERTOWN PFAS SITE

Sample ID Date		**PADEP MCL/ USEPA HAL**	MW-1 10/5/2022	MW-1 DUP 10/5/2022	MW-15S 10/5/2022	MW-15D 10/5/2022	MW-24S 10/5/2022	MW-24D 10/5/2022	OB-6-50 10/4/2022	OB-6-100 10/4/2022
AOF (µg/L)										
Adsorbable Organic Fluorine (AOF)		NE	13 !	2.9 !	1.9 J!	1.2 J!	2.1 !	10 !	**1.6** J!	1 U!
Total PFCA (ng/L)										
Perfluorobutanoic acid	PFBA	NE	0 !	0 !	0 !	0 !	0 !	0 !	**18** !	0 !
Perfluorobutanoic acid	PFBA	NE	10 U	10 U	10 U	10 U	10 U	10 U	**24**	10 U
Perfluoroheptanoic acid	PFHpA	NE	0 !	0 !	0 !	0 !	0 !	0 !	**1** !	0 !
Perfluoroheptanoic acid	PFHpA	NE	2.5 U	2.5 U	2.5 J	2.5 U	2.5 U	2.5 U	4.1	2.5 U
Perfluorohexanoic acid	PFHxA	NE	0 !	0 !	0 !	0 !	**14** !	0 !	**12** !	0 !
Perfluorohexanoic acid	PFHxA	NE	4.5 U	4.5 U	**4.5** J	4.5 J	14 U	4.5 J	**18**	4.5 U
Perfluorononanoic acid	PFNA	NE	0 !	0 !	0 !	0 !	0 !	0 !	0 !	0 !
Perfluorononanoic acid	PFNA	NE	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**2.5** J	2.5 U
Perfluorooctanoic acid	PFOA	NE	0 !	0 !	**1.6** !	0 !	**2.8** !	0 !	**2.8** !	**2.7** !
Perfluorooctanoic acid	PFOA	NE	2.5 U	2.5 U	**4.1**	2.5 U	**3.8** J	2.5 U	**9.3**	2.7 U
Pentafluoropropionic Anhydride	PFPA	NE	0 !	0 !	**2** !	**1.2** !	0 !	0 !	**3.6** !	**2.6** !
Pentafluoropropionic Anhydride	PFPA	NE	2.5 U	2.5 U	3.2 J	3.1	2.5 U	2.5 J	9.6	2.6 U
Total PFCA		NE	0 !	0 !	1.8 !	0.29 !	17 !	0 !	37 !	5.3 !
Total PFCA		NE	0.5 U!	0.5 U!	7.3 J!	3.1 J!	18 J!	1.9 J!	65 J!	5.3 U!

TABLE 6

GROUNDWATER ANALYTICAL DETECTIONS - OCTOBER 2022
SAEGERTOWN PFAS SITE

Sample ID Date		**PADEP MCL/ USEPA HAL**	OB-7-50 10/4/2022	OB-7-100 10/4/2022	PW-1 10/4/2022	PW-2 10/4/2022	PW-6 10/4/2022	PW-7 10/4/2022	PW-7 DUP 10/4/2022	SBW 10/4/2022
PFAS (537 IDA) (ng/L) [(1)]										
6:2 Fluorotelomer sulfonic acid	6:2 FTS	NE	**4.7**	4 U	3.8 U	3.8 U	3.6 U	3.7 U	3.8 U	3.8 U
Perfluorobutanesulfonic acid	PFBS	2000	**4**	**5.5**	**2.4**	**12**	**0.75** J	**9.6**	**10**	**9**
Perfluorobutanoic acid	PFBA	NE	1.8 U	**3.6** J	**1.9** J	**3.5** J	**2.4** J	**3** J	**3** J	**3** J
Perfluorodecanoic acid	PFDA	NE	**0.9** JI	**1.3** J	0.45 U	0.45 U	0.43 U	**0.54** J	**0.53** J	0.45 U
Perfluoroheptanesulfonic acid	PFHps	NE	**4.3**	**4.2**	0.45 U	**2.7**	0.43 U	**9.5**	**8.7**	**3.2**
Perfluoroheptanoic acid	PFHpA	NE	**1.2** J	**1.7** J	**0.97** J	**2.6**	**2.1**	**3.2**	**3.2**	**2.8**
Perfluorohexanesulfonic acid	PFHxS	NE	**66**	**84**	**1.1** J	**66**	**0.84** J	**110**	**110**	**65**
Perfluorohexanoic acid	PFHxA	NE	**1.8**	**3.1**	**1.8**	**7.8**	**4.1**	**9.4**	**8.9**	**9.1**
Perfluorononanesulfonic acid	PFNS	NE	0.45 U	**2** I	0.45 U	0.45 U	0.43 U	0.44 U	0.45 U	0.45 U
Perfluorononanoic acid	PFNA	NE	**4.6**	**2.3**	0.45 U	**2.8**	0.43 U	**2.1**	**2**	**6.7**
Perfluorooctanesulfonic acid	PFOS	18	**110**	**310**	**1** J	**23** I	**4.9**	**290**	**290**	**16** I
Perfluorooctanoic acid	PFOA	14	**4.1**	**4.4**	**2.7**	**4.6**	**0.92** J	**7.9**	**7.9**	**5.6**
Perfluoropentanesulfonic acid	PFPeS	NE	**6.7**	**7.2**	**0.52** J	**12**	0.43 U	**15**	**15**	**9.5**
Perfluoropentanoic acid	PFPeA	NE	**1.1** J	**1.8** J	**3.3**	**4.8**	**7.4**	**4.1**	**3.4**	**4.9**
Perfluoroundecanoic acid	PFUnDA	NE	**0.87** JI	**1.6** JI	0.45 U	0.45 U	0.43 U	0.44 U	0.45 U	0.45 U
PFAS (537 TOP) (ng/L) [(2)]										
Perfluorobutanesulfonic acid	PFBS	NE	**4.8** J!	**6.5** J!	2.5 U!	**11** !	2.5 U!	**9.4** J!	**9.3** J!	**8.5** J!
Perfluorobutanoic acid	PFBA	NE	10 U!	**10** J!	10 U!	**15** J!	10 U!	**22** J!	**23** J!	**16** J!
Perfluoroheptanesulfonic acid	PFHps	NE	**2.6** J!	**2.7** J!	2.5 U!	2.5 U!	2.5 U!	**5.5** J!	**5.6** J!	2.5 U!
Perfluoroheptanoic acid	PFHpA	NE	2.5 U!	**3.2** JI!	2.5 U!	**3.3** JI!	2.5 U!	**4.7** JI!	**4.7** JI!	**3** JI!
Perfluorohexanesulfonic acid	PFHxS	NE	**59** !	**84** !	2.5 U!	**60** !	2.5 U!	**110** !	**100** !	**64** !
Perfluorohexanoic acid	PFHxA	NE	**26** I!	**36** I!	**8.7** JI!	**14** I!	**9.2** JI!	**100** I!	**110** I!	**30** I!
Perfluorononanoic acid	PFNA	NE	**4.6** JI!	**2.5** JI!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	2.5 U!	**5.7** JI!
Perfluorooctanesulfonic acid	PFOS	NE	**89** !	**360** !	5 U!	**23** I!	**5.5** J!	**280** !	**270** !	**16** I!
Perfluorooctanoic acid	PFOA	NE	**5.5** JI!	**6.9** JI!	**6.7** JIB!cn	**8.7** JIB!cn	**4.7** JIB!cn	**11** IB!cn	**12** IB!cn	**9.1** JIB!cn
Perfluoropentanesulfonic acid	PFPeS	NE	**6** J!	**6.2** J!	2.5 U!	**10** !	2.5 U!	**12** !	**13** !	**9.2** J!
Perfluoropentanoic acid	PFPeA	NE	**6.3** J!	**5.3** J!	**6** J!	**11** !	**9.7** J!	**23** !	**24** !	**13** !

TABLE 6

GROUNDWATER ANALYTICAL DETECTIONS - OCTOBER 2022
SAEGERTOWN PFAS SITE

Sample ID Date		**PADEP MCL/ USEPA HAL**	OB-7-50 10/4/2022	OB-7-100 10/4/2022	PW-1 10/4/2022	PW-2 10/4/2022	PW-6 10/4/2022	PW-7 10/4/2022	PW-7 DUP 10/4/2022	SBW 10/4/2022
AOF (µg/L)										
Adsorbable Organic Fluorine (AOF)		NE	1.4 J!	**2.5** !	1.2 J!	**2.4** !	1 U!	**1.3** J!	**1.3** J!	1 U!
Total PFCA (ng/L)										
Perfluorobutanoic acid	PFBA	NE	0 !	**6.9** !	0 !	**11** !	0 !	**19** !	**20** !	**13** !
Perfluorobutanoic acid	PFBA	NE	10 U	**10** J	**10** J	**15** J!	**10** J	**22** J	**23** J	**16** J
Perfluoroheptanoic acid	PFHpA	NE	0 !	**1.5** !	0 !	**0.66** !	**0** !	**1.6** !	**1.5** !	**0.24** !
Perfluoroheptanoic acid	PFHpA	NE	**2.5** J	**3.2** J	2.5 J	3.3 JI!	2.5	4.7	4.7	3
Perfluorohexanoic acid	PFHxA	NE	**24** !	**33** !	**6.9** !	**5.8** !	**5.1** !	**95** !	**98** !	**21** !
Perfluorohexanoic acid	PFHxA	NE	**26**	**36**	**8.7**	**14** I!	**9.2**	**100**	**110**	**30**
Perfluorononanoic acid	PFNA	NE	**0.022** !	**0.23** !	0 !	0 !	0 !	0 !	0 !	0 !
Perfluorononanoic acid	PFNA	NE	**4.6**	**2.5**	2.5 U	2.8 U!	2.5 U	**2.5**	**2.5**	**6.7**
Perfluorooctanoic acid	PFOA	NE	**1.5** !	**2.5** !	**4** !	**4.1** !	**3.8** !	**3.5** !	**4.3** !	**3.5** !
Perfluorooctanoic acid	PFOA	NE	**5.5**	**6.9**	**6.7**	**8.7** JIB!	**4.7** J	**11**	**12**	**9.1**
Pentafluoropropionic Anhydride	PFPA	NE	**5.2** !	**3.4** !	**2.7** !	**5.8** !	**2.3** !	**19** !	**20** !	**8** !
Pentafluoropropionic Anhydride	PFPA	NE	6.3 J	5.3 J	6	11 !	9.7	23	24	13
Total PFCA		NE	30 !	47 !	11 !	26 !	6.7 !	130 !	150 !	45 !
Total PFCA		NE	42 J!	64 J!	21 J!	52 J!	24 J!	160 J!	170 J!	77 J!

TABLE 6

GROUNDWATER ANALYTICAL DETECTIONS - OCTOBER 2022
SAEGERTOWN PFAS SITE

Notes/Qualifiers

! - Laboratory is not accredited for this parameter
µg/L - microgram per liter
B - analyte was found in the blank
cn - refer to case narrative for further detail
EMPC - Estimated Maximum Possible Concentration
HAL - Health Advisory Limit
I - value is EMPC
J - result is less than the RL but greater than or equal to the MDL; estimated
MCL - Maximum Contaminant Level
MDL - Method Detection Limit
NE - Not Established
ng/L - nanogram per liter
PADEP - Pennsylvania Department of Environmental Protection
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
PFCA - Perfluoroalkyl carboxylic acids
ppt - parts per trillion
RL - Reporting Limit
U - Not Detected
USEPA - United States Environmental Protection Agency

Bold - Concentration is detected
Shaded - Detected concentration exceeds the proposed PADEP MCL

(1) - An additional 10 PFAS compounds (in including GenX compound HFPO-DA) via 537 IDA were analyzed for but not detected
(2) - An additional 13 PFAS compounds via 537 TOP were analyzed for but not detected

TABLE 6A

SUMMARY OF QA/QC ANALYTICAL RESULTS – OCTOBER 2022
SAEGERTOWN PFAS SITE

	FIELD BLANK	RINSATE BLANK	TRIP BLANK	MS/MSD	
Sample ID	FB-1	RB-1	Trip Blank	PW-2 MS*	PW-2 MSD*
Date	10/4/2022	10/5/2022	10/5/2022	10/4/2022	10/4/2022
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	---	---	0.3 U	---	---
1,1,2,2-Tetrachloroethane	---	---	0.3 U	---	---
1,1,2-Trichloroethane	---	---	0.3 U	---	---
1,1-Dichloroethane	---	---	0.3 U	---	---
1,1-Dichloroethene	---	---	0.3 U	---	---
1,2,4-Trichlorobenzene	---	---	0.3 U	---	---
1,2-Dibromo-3-Chloropropane	---	---	0.3 U	---	---
1,2-Dibromoethane	---	---	0.2 U	---	---
1,2-Dichlorobenzene	---	---	0.2 U	---	---
1,2-Dichloroethane	---	---	0.3 U	---	---
1,2-Dichloropropane	---	---	0.3 U	---	---
1,3-Dichlorobenzene	---	---	0.68 U	---	---
1,4-Dichlorobenzene	---	---	0.3 U	---	---
2-Butanone	---	---	0.5 U	---	---
2-Hexanone	---	---	0.85 U	---	---
4-Methyl-2-pentanone	---	---	0.5 U	---	---
Acetone	---	---	0.7 U	---	---
Benzene	---	---	0.3 U	---	---
Bromodichloromethane	---	---	0.2 U	---	---
Bromoform	---	---	1 U	---	---
Bromomethane	---	---	0.3 U	---	---
Carbon disulfide	---	---	0.3 U	---	---
Carbon tetrachloride	---	---	0.3 U	---	---
Chlorobenzene	---	---	0.3 U	---	---
Chloroethane	---	---	0.2 U	---	---
Chloroform	---	---	0.3 U	---	---
Chloromethane	---	---	0.55 U	---	---
cis-1,2-Dichloroethene	---	---	0.3 U	---	---
cis-1,3-Dichloropropene	---	---	0.2 U	---	---
Cyclohexane	---	---	1 U	---	---
Dibromochloromethane	---	---	0.2 U	---	---
Dichlorodifluoromethane	---	---	0.2 U	---	---
Ethylbenzene	---	---	0.4 U	---	---
Freon 113	---	---	0.3 U	---	---
Isopropylbenzene	---	---	0.2 U	---	---
Methyl acetate	---	---	0.3 U	---	---
Methyl tertiary butyl ether	---	---	0.2 U	---	---
Methylcyclohexane	---	---	0.5 U	---	---
Methylene Chloride	---	---	0.3 U	---	---
Styrene	---	---	0.3 U	---	---
Tetrachloroethene	---	---	0.3 U	---	---
Toluene	---	---	0.2 U	---	---
trans-1,2-Dichloroethene	---	---	0.7 U	---	---
trans-1,3-Dichloropropene	---	---	0.2 U	---	---
Trichloroethene	---	---	0.3 U	---	---
Trichlorofluoromethane	---	---	0.2 U	---	---
Vinyl chloride	---	---	0.2 U	---	---
Xylenes, Total	---	---	0.4 U	---	---

TABLE 6A

SUMMARY OF QA/QC ANALYTICAL RESULTS – OCTOBER 2022
SAEGERTOWN PFAS SITE

		FIELD BLANK	RINSATE BLANK	TRIP BLANK	MS/MSD	
Sample ID		FB-1	RB-1	Trip Blank	PW-2 MS*	PW-2 MSD*
Date		10/4/2022	10/5/2022	10/5/2022	10/4/2022	10/4/2022
PFAS (537 IDA) (ng/L)						
4:2 Fluorotelomer sulfonic acid	4:2 FTS	0.47 U	0.46 U	---	82	82
6:2 Fluorotelomer sulfonic acid	6:2 FTS	3.9 U	3.9 U	---	87	80
8:2 Fluorotelomer sulfonic acid	8:2 FTS	0.94 U	0.93 U	---	86	93
N-Ethyl-N-[(heptadecafluorooctyl)sulphonyl]gly	NEtFOSAA	0.47 U	0.46 U	---	92	93
N-methyl perfluorooctanesulfonamidoacetic	NMeFOSAA	0.56 U	0.56 U	---	81	91
Perfluorobutanesulfonic acid	PFBS	0.47 U	0.46 U	---	83	85
Perfluorobutanoic acid	PFBA	1.9 U	1.9 U	---	88	92
Perfluorodecanesulfonic acid	PFDS	0.47 U	0.46 U	---	82	87
Perfluorodecanoic acid	PFDA	0.47 U	0.46 U	---	95	102
Perfluorododecanoic acid	PFDoA	0.47 U	0.46 U	---	90	79
Perfluoroheptanesulfonic acid	PFHps	0.47 U	0.46 U	---	95	94
Perfluoroheptanoic acid	PFHpA	0.47 U	0.46 U	---	85	86
Perfluorohexanesulfonic acid	PFHxS	0.47 U	0.46 U	---	77	62
Perfluorohexanoic acid	PFHxA	0.84 U	0.84 U	---	87	90
Perfluorononanesulfonic acid	PFNS	0.47 U	0.46 U	---	89	83
Perfluorononanoic acid	PFNA	0.47 U	0.46 U	---	88	92
Perfluorooctanesulfonamide	PFOSA	0.66 U	0.65 U	---	100	106
Perfluorooctanesulfonic acid	PFOS	0.94 U	0.93 U	---	88	85
Perfluorooctanoic acid	PFOA	0.47 U	0.46 U	---	91	92
Perfluoropentanesulfonic acid	PFPeS	0.47 U	0.46 U	---	101	89
Perfluoropentanoic acid	PFPeA	0.47 U	0.46 U	---	90	83
Perfluorotetradecanoic acid	PFTA	0.47 U	0.46 U	---	86	90
Perfluorotridecanoic acid	PFTrDA	0.47 U	0.46 U	---	104	93
Perfluoroundecanoic acid	PFUnDA	0.47 U	0.46 U	---	88	92
Hexafluoropropylene Oxide Dimer Aci	HFPO-DA(GenX)	0.94 U	0.93 U	---	87	82
PFAS (537 TOP) (ng/L)						
4:2 Fluorotelomer sulfonic acid	4:2 FTS	2.5 U!	2.5 U!	---	---	---
6:2 Fluorotelomer sulfonic acid	6:2 FTS	21 U!	21 U!	---	---	---
8:2 Fluorotelomer sulfonic acid	8:2 FTS	5 U!	5 U!	---	---	---
N-Ethyl-N-[(heptadecafluorooctyl)sulphonyl]glycine	NEtFOSAA	2.5 U!	2.5 U!	---	---	---
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	3 U!	3 U!	---	---	---
Perfluorobutanesulfonic acid	PFBS	2.5 U!	2.5 U!	---	---	---
Perfluorobutanoic acid	PFBA	10 U!	10 U!	---	---	---
Perfluorodecanesulfonic acid	PFDS	2.5 U!	2.5 U!	---	---	---
Perfluorodecanoic acid	PFDA	2.5 U!	2.5 U!	---	---	---
Perfluorododecanoic acid	PFDoA	2.5 U!	2.5 U!	---	---	---
Perfluoroheptanesulfonic acid	PFHps	2.5 U!	2.5 U!	---	---	---
Perfluoroheptanoic acid	PFHpA	2.5 U!	2.5 U!	---	---	---
Perfluorohexanesulfonic acid	PFHxS	2.5 U!	2.5 U!	---	---	---
Perfluorohexanoic acid	PFHxA	**8** JI!	4.5 U!	---	---	---
Perfluorononanesulfonic acid	PFNS	2.5 U!	2.5 U!	---	---	---
Perfluorononanoic acid	PFNA	2.5 U!	2.5 U!	---	---	---
Perfluorooctanesulfonamide	PFOSA	3.5 U!	3.5 U!	---	---	---
Perfluorooctanesulfonic acid	PFOS	5 U!	5 U!	---	---	---
Perfluorooctanoic acid	PFOA	**3.3** JIB!cn	2.5 U!	---	---	---

TABLE 6A

SUMMARY OF QA/QC ANALYTICAL RESULTS – OCTOBER 2022
SAEGERTOWN PFAS SITE

		FIELD BLANK	RINSATE BLANK	TRIP BLANK	MS/MSD	
Sample ID		FB-1	RB-1	Trip Blank	PW-2 MS*	PW-2 MSD*
Date		10/4/2022	10/5/2022	10/5/2022	10/4/2022	10/4/2022
PFAS (537 TOP) (ng/L) (cont.)						
Perfluoropentanesulfonic acid	PFPeS	2.5 U!	2.5 U!	---	---	---
Perfluoropentanoic acid	PFPeA	2.5 U!	2.5 U!	---	---	---
Perfluorotetradecanoic acid	PFTA	2.5 U!	2.5 U!	---	---	---
Perfluorotridecanoic acid	PFTrDA	2.5 U!	2.5 U!	---	---	---
Perfluoroundecanoic acid	PFUnDA	2.5 U!	2.5 U!	---	---	---
AOF (µg/L)						
Adsorbable Organic Fluorine (AOF)		1 U!	1 U!	---	89	88
Total PFCA (ng/L)						
PFBA		**0** !	**0** !	---	---	---
PFBA		10 U	10 U	---	---	---
PFHpA		**0** !	**0** !	---	---	---
PFHpA		2.5 U!	2.5 U	---	---	---
PFHxA		**8** !	**0** !	---	---	---
PFHxA		**8** JI!	4.5 U	---	---	---
PFNA		**0** !	**0** !	---	---	---
PFNA		2.5 U!	2.5 U	---	---	---
PFOA		**3.3** !	**0** !	---	---	---
PFOA		**3.3** JIB!	2.5 U	---	---	---
PFPA		**0** !	**0** !	---	---	---
PFPA		2.5 U!	2.5 U	---	---	---
Total PFCA		**11** !	**0** !	---	---	---
Total PFCA		**11** J!	0.5 U!	---	---	---

Notes/Qualifiers:

--- - Not Analyzed
! - Laboratory is not accredited for this parameter
% - percent
µg/L - microgram per liter
B - analyte was found in the blank
cn - refer to case narrative for further detail
EMPC - Estimated Maximum Possible Concentration
I - value is EMPC
J - result is less than the RL but greater than or equal to the MDL; estimated
MDL - Method Detection Limit
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ng/L - nanogram per liter
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
QA/QC - Quality Assurance/Quality Control

* - Results for the MS/MSD samples are presented as precents (%).

Table 7
Summary of PFAS Detections in Split Samples
October 2022

Sample ID Constituents	PFAS Abbreviation	CAS Number	USEPA Final HA [a,b,c]	PADEP Proposed MCL	Tap Water RSL THQ=0.1	Units	GM-24S 10/5/22	GM-24S DUP 10/5/22	GM-24D 10/5/22	GM-15S 10/5/22	GM-15D 10/5/22	EQUP-WATER PROBE 10/5/22	EQUIP-BLADDER PUMP 10/5/22
Perfluoroalkyl carboxylic acid (PFCA)													
Perfluorobutanoic acid	PFBA	375-22-4	--	--	--	ng/L	<4.9 U	<4.8 U	<4.6 U	**1.8 J**	<4.8 U	<4.9 U	<4.7 U
Perfluoropentanoic acid	PFPeA	2706-90-3	--	--	--	ng/L	<2.0 U	<1.9 U	**0.75 J**	**1.3 J**	**1.8 J**	<1.9 U	<1.9 U
Perfluorohexanoic acid	PFHxA	307-24-4	--	--	--	ng/L	<2.0 U	<1.9 U	**1.4 J**	**1.2 J**	**1.2 J**	<1.9 U	<1.9 U
Perfluoroheptanoic acid	PFHpA	375-85-9	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	**0.78 J**	<1.9 U	<1.9 U	<1.9 U
Perfluorooctanic acid	PFOA	335-67-1	70	14	6	ng/L	**1.4 J**	**1.2 J**	<1.9 U	**2.6**	<1.9 U	<1.9 U	<1.9 U
Perfluorononanoic acid	PFNA	375-95-1	--	--	5.9	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorodecanoic acid	PFDA	335-76-2	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluoroundecanoic acid	PFUnA	2058-94-8	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorododecanoic acid	PFDoA	307-55-1	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorotridecanoic acid	PFTrDA	72629-94-8	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorotetradecanoic acid	PFTA	376-06-7	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluoroalkane sulfonic acid (PFSA)													
Perfluorobutanesulfonic acid	PFBS	375-73-5	2,000	--	600	ng/L	**1.2 J**	**1.1 J**	**1.1 J**	**3.2**	**1.0 J**	<1.9 U	<1.9 U
Perfluoropentanesulfonic acid	PFPeS	2706-91-4	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorohexanesulfonic acid	PFHxS	355-46-4	--	--	39	ng/L	**9.6**	**9.7**	**1.3 J**	**1.0 J**	<1.9 U	<1.9 U	<1.9 U
Perfluoroheptanesulfonic acid	PFHpS	375-92-8	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorooctanesulfonic acid	PFOS	1762-23-1	70	18	4	ng/L	***39***	***37***	<1.9 U	**3.0**	<1.9 U	<1.9 U	<1.9 U
Perfluorononanesulfonic acid	PFNS	68259-12-1	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluorodecanesulfonic acid	PFDS	335-77-3	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Perfluoroalkane sulfomides (FASA) and derivatives													
Perfluorooctanessulfonamide	PFOSA	754-91-6	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
N-ethyl perfluorooctanesulfomidoacetic acid	NEtFOSAA	2991-50-6	--	--	--	ng/L	<3.0 U	<2.9 U	<2.8 U	<2.7 U	<2.9 U	<2.9 U	<2.8 U
N-methyl perfluorooctanesulfomidoacetic acid	NMeFOSAA	2355-31-9	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
Fluorotelomer sulfonic acid (FTSA)													
4:2 Fluorotelomer sulfonic acid	4:2 FTS	757124-72-4	--	--	--	ng/L	<2.0 U	<1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U
6:2 Fluorotelomer sulfonic acid	6:2 FTS	27619-97-2	--	--	--	ng/L	<4.9 U	<4.8 U	<4.6 U	<4.5 U	<4.8 U	<4.9 U	<4.7 U
8:2 Fluorotelomer sulfonic acid	8:2 FTS	39108-34-4	--	--	--	ng/L	<3.0 U	<2.9 U	<2.8 U	<2.7 U	<2.9 U	<2.9 U	<2.8 U

Notes:

1. **Bold** indicates sample was detected
2. Underline indicates sample detected above Tap Water RSL
3. *Italic indicates sample detected above PADEP Proposed MCL*

a.)USEPA. 2016. Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate. EPA-HQ-OW-2014-0138; FRL-9946-91-OW. Federal Register/ Vol. 81. No. 101. May 25. Available online at: https://www.govinfo.gov/content/pkg/FR-2016-05-25/pdf/2016-12361.pdf.

b.)The 2016 HA applies to the combined concentration of PFOA and PFOS.

c.)USEPA Interim Drinking Water HA for PFOA, USEPA Interim Drinking Water HA for PFOS, and Drinking Water HA for PFBS and Related Compound Potassium Perfluorobutane Sulfonate" (USEPA, 2022a; USEPA, 2022b; USEPA, 2022c). In June 2022, the USEPA issued interim drinking water HAs for PFOA and PFOS at 0.004 ng/L and 0.02 ng/L, respectively (USEPA 2022a, USEPA 2022b). These values are considered draft interim HAs, and they are below current achievable reporting limits.

Acronyms and Abbreviations:
ng/L = nanogram per liter
<U = not detected above reporting limit
-- = Criteria not established
HA = Health Advisory
MCL = maximum contaminant level
PADEP = Pennsylvania Department of Environmental Protection
RSL = Regional Screening Levels
THQ = Target Hazard Quotient
USEPA = United States Environmental Protection Agency
PFAS = Per- and Polyfluoroalkyl Substances

Qualifiers:
J = Result is less than the reporting limit but greater than or equal to the method detection limit, approximate value.

TABLE 8

GROUNDWATER ANALYTICAL DETECTIONS - JANUARY 2023
SAEGERTOWN PFAS SITE

Sample ID Date		**PADEP MCL/ USEPA HAL**	MW-1 1/10/2023	MW-15S 1/11/2023	MW-15D 1/11/2023	MW-24S 1/11/2023	MW-24D 1/11/2023	OB-6-50 1/10/2023	OB-6-100 1/10/2023	OB-7-50 1/9/2023
PFAS (537 IDA) (ng/L) [(1)]										
4:2 Fluorotelomer sulfonic acid	4:2 FTS	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	0.46 U	0.46 U	0.46 U
6:2 Fluorotelomer sulfonic acid	6:2 FTS	NE	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.9 U	3.9 U	**5.1**
Perfluorobutanesulfonic acid	PFBS	2000	0.46 U	**1.1** J	**0.59** J	**1** J	0.45 U	**2.2**	**0.58** J	**4.9**
Perfluorobutanoic acid	PFBA	NE	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	**3.4** J	1.9 U	**2.4** J
Perfluorodecanoic acid	PFDA	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	0.46 U	0.46 U	**0.58** J
Perfluoroheptanesulfonic acid	PFHps	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	**1.3** J	0.46 U	**3**
Perfluoroheptanoic acid	PFHpA	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	**3.1**	0.46 U	**2.6**
Perfluorohexanesulfonic acid	PFHxS	NE	0.46 U	**0.53** J	0.45 U	**8.3**	**0.72** J	**50**	**0.52** JI	**84**
Perfluorohexanoic acid	PFHxA	NE	0.82 U	0.81 U	**1.1** J	0.82 U	0.81 U	**6.2**	0.83 U	**4.2**
Perfluorononanoic acid	PFNA	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	**1** J	0.46 U	**3.5**
Perfluorooctanesulfonic acid	PFOS	18	0.91 U	**2.1**	0.9 U	**16**	0.9 U	**90**	0.93 U	**130**
Perfluorooctanoic acid	PFOA	14	0.46 U	**1.5** J	0.45 U	**0.51** J	0.45 U	**5.2**	0.46 U	**4.7**
Perfluoropentanesulfonic acid	PFPeS	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	**2.3**	0.46 U	**8.8**
Perfluoropentanoic acid	PFPeA	NE	0.46 U	**0.52** J	**1.7** J	0.46 U	0.45 U	**5.7**	0.46 U	**2.5**
Perfluoroundecanoic acid	PFUnDA	NE	0.46 U	0.45 U	0.45 U	0.46 U	0.45 U	**0.63** JI	0.46 U	**0.85** JI

TABLE 8

GROUNDWATER ANALYTICAL DETECTIONS - JANUARY 2023
SAEGERTOWN PFAS SITE

Sample ID		PADEP MCL/ USEPA HAL	OB-7-100	OB-7-100D	PW-1	PW-2	PW-2D	PW-6	PW-7	SBW
Date			1/9/2023	1/9/2023	1/10/2023	1/10/2023	1/10/2023	1/10/2023	1/10/2023	1/10/2023
PFAS (537 IDA) (ng/L) [1]										
4:2 Fluorotelomer sulfonic acid	4:2 FTS	NE	0.46 U	0.44 U	0.47 U	0.45 U	0.47 U	0.46 U	0.47 U	0.47 U
6:2 Fluorotelomer sulfonic acid	6:2 FTS	NE	**12**	3.7 U	3.9 U	3.8 U	4 U	3.9 U	3.9 U	3.9 U
Perfluorobutanesulfonic acid	PFBS	2000	**5.9**	**4.5**	**2.6**	**9.8**	**9.2**	**0.8** J	**1.1** J	**8.3**
Perfluorobutanoic acid	PFBA	NE	**2.4** J	**2.2** J	**2.4** J	**2.7** J	**2.6** J	**3** J	1.9 U	**2.6** J
Perfluorodecanoic acid	PFDA	NE	**1.5** J	**1.5** J	0.47 U	0.45 U	0.47 U	0.46 U	0.47 U	0.47 U
Perfluoroheptanesulfonic acid	PFHps	NE	**3.5**	**2.9**	0.47 U	**3**	**2.9**	0.46 U	**1.2** J	**3.4**
Perfluoroheptanoic acid	PFHpA	NE	**1.8**	**1.3** J	**1.1** J	**2.5**	**2.4**	**2.6**	0.47 U	**2.5**
Perfluorohexanesulfonic acid	PFHxS	NE	**110**	**82**	**1.3** J	**72**	**68**	**0.92** J	**18**	**90**
Perfluorohexanoic acid	PFHxA	NE	**4.3**	**4**	**2.6**	**7.6**	**7**	**6.3**	**1.7** J	**8.2**
Perfluorononanoic acid	PFNA	NE	**2.2**	**1.9**	0.47 U	**3**	**3.1**	0.46 U	0.47 U	**5.3**
Perfluorooctanesulfonic acid	PFOS	18	**460**	**410**	**1.3** JI	**60**	**61**	**4.3**	**60**	**34** I
Perfluorooctanoic acid	PFOA	14	**3.5**	**3**	**3.2**	**4.8**	**4.8**	**1.1** J	**1.1** J	**5.2**
Perfluoropentanesulfonic acid	PFPeS	NE	**6.5**	**5**	**0.55** J	**10**	**9.6**	0.46 U	**1.7** J	**8.8**
Perfluoropentanoic acid	PFPeA	NE	**2.1**	**2.1**	**3.7**	**4.6**	**4.5**	**11**	**1.9**	**4.2**
Perfluoroundecanoic acid	PFUnDA	NE	**2.6** I	**2.3** I	0.47 U	0.45 U	0.47 U	0.46 U	0.47 U	0.47 U

Notes/Qualifiers

EMPC - Estimated Maximum Possible Concentration
HAL - Health Advisory Limit
I - value is EMPC
J - result is less than the RL but greater than or equal to the MDL; estimated
MCL - Maximum Contaminant Level
MDL - Method Detection Limit
NE - Not Established
ng/L - nanogram per liter
PADEP - Pennsylvania Department of Environmental Protection
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
RL - Reporting Limit
U - Not Detected
USEPA - United States Environmental Protection Agency

Bold - Concentration is detected
Shaded - Detected concentration exceeds the proposed PADEP MCL

[1] - An additional 11 PFAS compounds (including GenX HFPODA) via 537 IDA were analyzed for but not detected

TABLE 8A

SUMMARY OF QA/QC ANALYTICAL RESULTS – JANUARY 2023
SAEGERTOWN PFAS SITE

		Field Blank	Equipment Rinsate	MS/MSD	
Sample ID		FB-2	RB-2	PW-1 MS*	PW-1 MSD*
Date		1/9/2023	1/11/2023	1/10/2023	1/10/2023
PFAS (537 IDA) (ng/L)					
4:2 Fluorotelomer sulfonic acid	4:2 FTS	0.47 U	0.45 U	98	98
6:2 Fluorotelomer sulfonic acid	6:2 FTS	3.9 U	3.8 U	101	100
8:2 Fluorotelomer sulfonic acid	8:2 FTS	0.93 U	0.89 U	97	96
N-Ethyl-N-[(heptadecafluorooctyl)sulphonyl]glycine	NEtFOSAA	0.47 U	0.45 U	98	92
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	0.56 U	0.54 U	97	102
Perfluorobutanesulfonic acid	PFBS	0.47 U	0.45 U	105	106
Perfluorobutanoic acid	PFBA	1.9 U	1.8 U	84	85
Perfluorodecanesulfonic acid	PFDS	0.47 U	0.45 U	100	97
Perfluorodecanoic acid	PFDA	0.47 U	0.45 U	103	100
Perfluorododecanoic acid	PFDoA	0.47 U	0.45 U	102	104
Perfluoroheptanesulfonic acid	PFHps	0.47 U	0.45 U	98	93
Perfluoroheptanoic acid	PFHpA	0.47 U	0.45 U	102	102
Perfluorohexanesulfonic acid	PFHxS	0.47 U	0.45 U	100	98
Perfluorohexanoic acid	PFHxA	0.84 U	0.8 U	95	93
Perfluorononanesulfonic acid	PFNS	0.47 U	0.45 U	93	95
Perfluorononanoic acid	PFNA	0.47 U	0.45 U	102	95
Perfluorooctanesulfonamide	PFOSA	0.65 U	0.63 U	96	98
Perfluorooctanesulfonic acid	PFOS	0.93 U	0.89 U	97	99
Perfluorooctanoic acid	PFOA	0.47 U	0.45 U	89	90
Perfluoropentanesulfonic acid	PFPeS	0.47 U	0.45 U	99	102
Perfluoropentanoic acid	PFPeA	0.47 U	0.45 U	91	92
Perfluorotetradecanoic acid	PFTA	0.47 U	0.45 U	99	94
Perfluorotridecanoic acid	PFTrDA	0.47 U	0.45 U	100	99
Perfluoroundecanoic acid	PFUnDA	0.47 U	0.45 U	104	100
Hexafluoropropylene Oxide Dimer Acid	HFPO-DA(GenX)	0.93 U	0.89 U	102	104

Notes/Qualifiers:

% - percent
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ng/L - nanogram per liter
PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances
QA/QC - Quality Assurance/Quality Control
U - Not Detected

* - Results for the MS/MSD samples are presented as precents (%).

Table 9
Summary of PFAS Detections in Split Samples
January 2023

Sample ID				GM-24S Lord	GM-24S Lord	GM-24I Lord	GM-24I Lord	GM-15S Lord	GM-15S Lord	GM-15D Lord	GM-15D Lord	EQUP-WATER PROBE Lord	EQUIP-BLADDER PUMP Lord	EQUIP-BLADDER PUMP Lord	RB-1 Lord
Constituents	**PFAS Abbreviation**	**Method**	**Units**	**10/5/22**	**1/11/23**	**10/5/22**	**1/11/23**	**10/5/22**	**1/11/23**	**10/5/22**	**1/11/23**	**10/5/22**	**10/5/22**	**1/11/23**	**1/11/23**
Perfluoroalkyl carboxylic acid (PFCA)															
Perfluorobutanoic acid	PFBA	537 IDA	ng/L	<4.9 U [<4.8 U]	<4.8 U [<4.6 U]	<4.6 U	< 4.5 U	**1.8 J**	< 4.8 U	<4.8 U	< 4.6 U	<4.9 U	<4.7 U	<4.8 U	<5.1 U
Perfluorodecanoic acid	PFDA	537 IDA	ng/L	<2.0 U [<1.9 U]	<1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorododecanoic acid	PFDoA	537 IDA	ng/L	<2.0 U [<1.9 U]	<1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	<1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 UJ	<2.0 U
Perfluoroheptanoic acid	PFHpA	537 IDA	ng/L	<2.0 U [<1.9 U]	<1.9 U [<1.9 U]	<1.9 U	< 1.8 U	**0.78 J**	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorohexanoic acid	PFHxA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	**1.4 J**	<1.8 U	**1.2 J**	< 1.9 U	**1.2 J**	**1.2 J**	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorononanoic acid	PFNA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorooctanoic acid	PFOA	537 IDA	ng/L	**1.4 J [1.2 J]**	**0.59 J** [<1.9 U]	<1.9 U	< 1.8 U	**2.6**	**1.4 J**	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoropentanoic acid	PFPeA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	**0.75 J**	< 1.8 U	**1.3 J**	**0.53 J**	**1.8 J**	**1.7 J**	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorotetradecanoic acid	PFTA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorotridecanoic acid	PFTrDA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoroundecanoic acid	PFUnA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoroalkane sulfonic acid (PFSA)															
Perfluorobutanesulfonic acid	PFBS	537 IDA	ng/L	**1.2 J [1.1 J]**	**0.84 J [1.0 J]**	**1.1 J**	< 1.8 U	**3.2**	**1.2 J**	**1.0 J**	**0.53 J**	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorodecanesulfonic acid	PFDS	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoroheptanesulfonic acid	PFHpS	537 IDA	ng/L	<2.0 U [<1.9 U]	<1.9 U [<1.9 U]	<1.9 U	<1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorohexanesulfonic acid	PFHxS	537 IDA	ng/L	**9.6 [9.7 J]**	**8.3 [8.3]**	**1.3 J**	**0.65 J**	**1.0 J**	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorononanesulfonic acid	PFNS	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorooctanesulfonic acid	PFOS	537 IDA	ng/L	***39 [37]***	**15 [15]**	<1.9 U	< 1.8 U	**3.0**	**2.0**	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoropentanesulfonic acid	PFPeS	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	<1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluoroalkane sulfomides (FASA) and derivatives															
ethyl perfluorooctanesulfomidoacetic acid	NEtFOSAA	537 IDA	ng/L	<3.0 U [<2.9 U]	< 2.9 U [<2.8U]	<2.8 U	< 2.7 U	<2.7 U	< 2.9 U	<2.9 U	< 2.7 U	<2.9 U	<2.8 U	<2.9 U	<3.1 U
methyl perfluorooctanesulfomidoacetic acid	NMeFOSAA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	<1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Perfluorooctanessulfonamide	PFOSA	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	<1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
Fluorotelomer sulfonic acid (FTSA)															
4:2 Fluorotelomer sulfonic acid	4:2 FTS	537 IDA	ng/L	<2.0 U [<1.9 U]	< 1.9 U [<1.9 U]	<1.9 U	< 1.8 U	<1.8 U	< 1.9 U	<1.9 U	< 1.8 U	<1.9 U	<1.9 U	<1.9 U	<2.0 U
6:2 Fluorotelomer sulfonic acid	6:2 FTS	537 IDA	ng/L	<4.9 U [<4.8 U]	<4.8 U [<4.6 U]	<4.6 U	< 4.5 U	<4.5 U	< 4.8 U	<4.8 U	< 4.6 U	<4.9 U	<4.7 U	<4.8 U	<5.1 U
8:2 Fluorotelomer sulfonic acid	8:2 FTS	537 IDA	ng/L	<3.0 U [<2.9 U]	< 2.9 U [<2.8U]	<2.8 U	< 2.7 U	<2.7 U	< 2.9 U	<2.9 U	< 2.7 U	<2.9 U	<2.8 U	<2.9 U	<3.1 U

Table 9
Summary of PFAS Detections in Split Samples
January 2023

Notes:

1. **Bold** indicates sample was detected
2.Grey shade indicates sample (537 IDA only) detected above Tap Water RSL
3. Italic indicates sample (537 IDA only) detected above PADEP MCL

a.)USEPA. 2016. Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate. EPA-HQ-OW-2014-0138; FRL-9946-91-OW. Federal Register/ Vol. 81. No. 101. May 25. Available online at: https://www.govinfo.gov/content/pkg/FR-2016-05-25/pdf/2016-12361.pdf.
b.)The 2016 HA applies to the combined concentration of PFOA and PFOS.

c.)USEPA Interim Drinking Water HA for PFOA, USEPA Interim Drinking Water HA for PFOS, and Drinking Water HA for PFBS and Related Compound Potassium Perfluorobutane Sulfonate" (USEPA, 2022a; USEPA, 2022b; USEPA, 2022c). In June 2022, the USEPA issued interim drinking water HAs for PFOA and PFOS at 0.004 ng/L and 0.02 ng/L, respectively (USEPA 2022a, USEPA 2022b). These values are considered draft interim HAs, and they are below current achievable reporting limits.

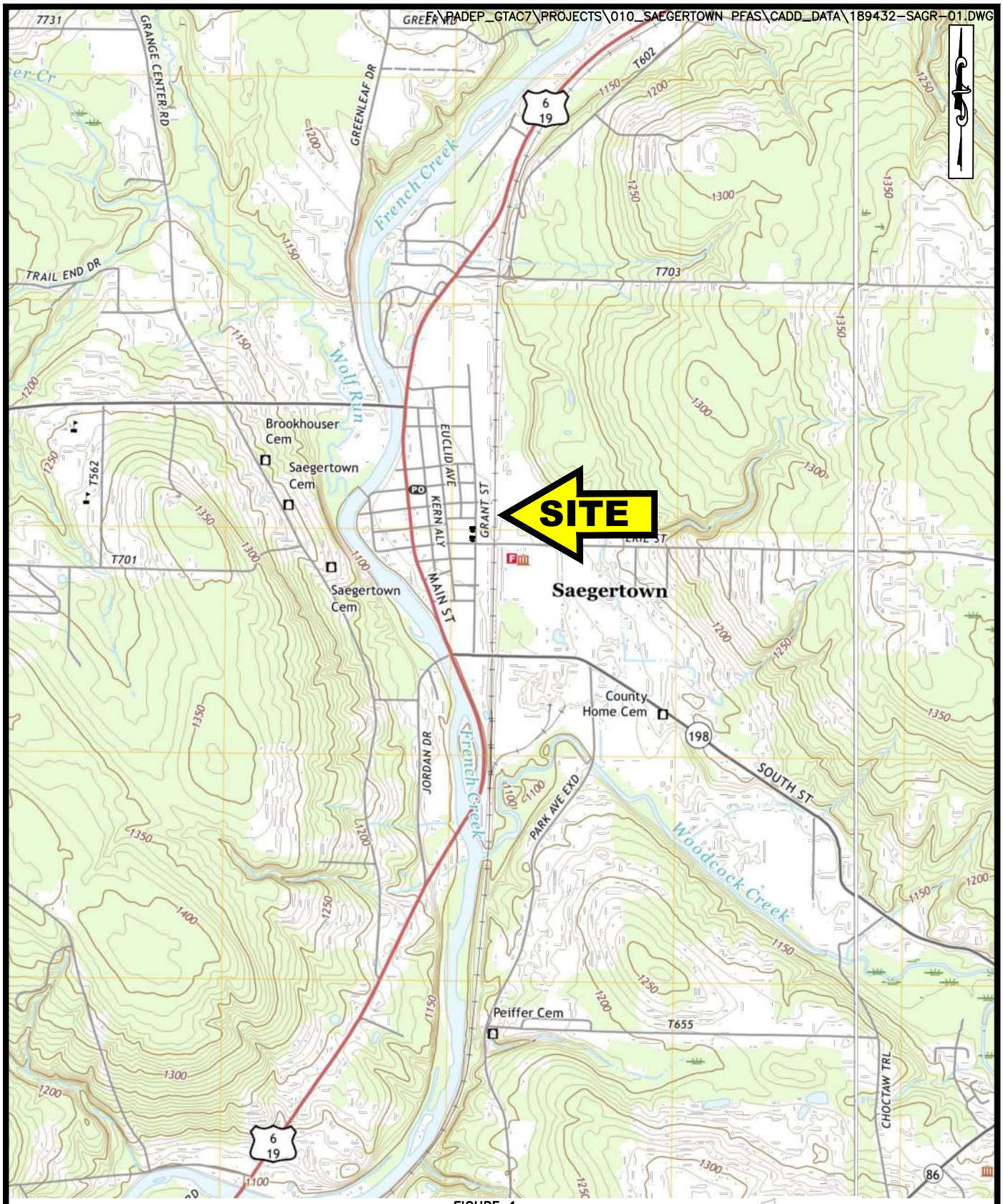
Acronyms and Abbreviations:
ng/L = nanogram per liter
<U = not detected above reporting limit
<UJ = not detected above reporting limit. Control limit <50% but >20%
-- = Criteria not established
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
B = Analyte was found in the blank
HA = Health Advisory
MCL = maximum contaminant level
PADEP = Pennsylvania Department of Environmental Protection
RSL = Regional Screening Levels
THQ = Target Hazard Quotient
USEPA = United States Environmental Protection Agency
PFAS = Per- and Polyfluoroalkyl Substances
[ ] = Duplicate Sample
Lord = Lord Corporation, a subsidiary of Parker Hannifin
537 IDA = EPA 537 modified with Isotope Dilution

Table 10
Summary of Historical PFAS Detections
Saegertown PFAS Site

		Target Parameters (nanograms per liter [ng/L])						
Sample ID	Sample Date	Perfluorobutanesulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluoroheptanoic Acid (PFHpA)	Perfluorohexanesulfonic Acid (PFHxS)	Perfluorononaoic Acid (PFNA)	Perfluorooctanesulfonic Acid (PFOS)	Perfluorooctanoic Acid (PFOA)
EP-105 WELL #6	10/21/2020	9.2	8.6	ND	79.4	ND	**187.1**	5.5
EP-105 WELL #6	11/19/2020	2.0	3.8	ND	20	ND	**90**	ND
EP-105 WELL #6	1/19/2021	2.3	5.1	ND	28.0	ND	**120**	ND
EP-105 WELL #6	5/18/2021	ND	2.3	ND	7.5	ND	**35**	ND
EP-105 WELL #6	7/12/2021	11.0	11.0	3.8	120.0	2.4	**180**	6.9
EP-105 WELL #6	10/4/2021	3.0	4.8	ND	34.1	ND	**61.6**	2.2
EP-105 WELL #6	1/11/2022	2.3	2.9	ND	33.0	ND	**61**	2.0
EP-105 WELL #6	4/6/2022	ND	2.7	ND	8.9	ND	**22.4**	ND
EP-105 WELL #6	7/5/2022	ND	3.3	ND	ND	ND	7.5	ND
EP-105 WELL #6	10/4/2022	4.1	2.8	ND	16.4	ND	4.6	ND
EP-105 WELL #6	2/7/2023	0.96	4.5	1.8	4.3	1.8	12	0.94
EP-105 WELL #7	11/19/2020	6.9	8.0	3.1	85	ND	**170**	4.8
Beverage #1 (SBW)	6/14/2021	1.1	2.3	0.996	ND	2.5	0.664	3.1
Beverage #1 (SBW)	7/12/2022	34.0	35.7	8.2	240	16.5	**40.3**	**18.8**
MW-1	3/16/2021	ND	ND	ND	ND	ND	ND	ND

Notes:
SBW - Saegertown Beverage Well
ND - Not Detected
Shaded/bolded values exceed criteria of 18 ng/L for PFOS and 14 ng/L for PFOA.

FIGURES



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

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

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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OBG|Baker Environmental Solutions Joint Venture

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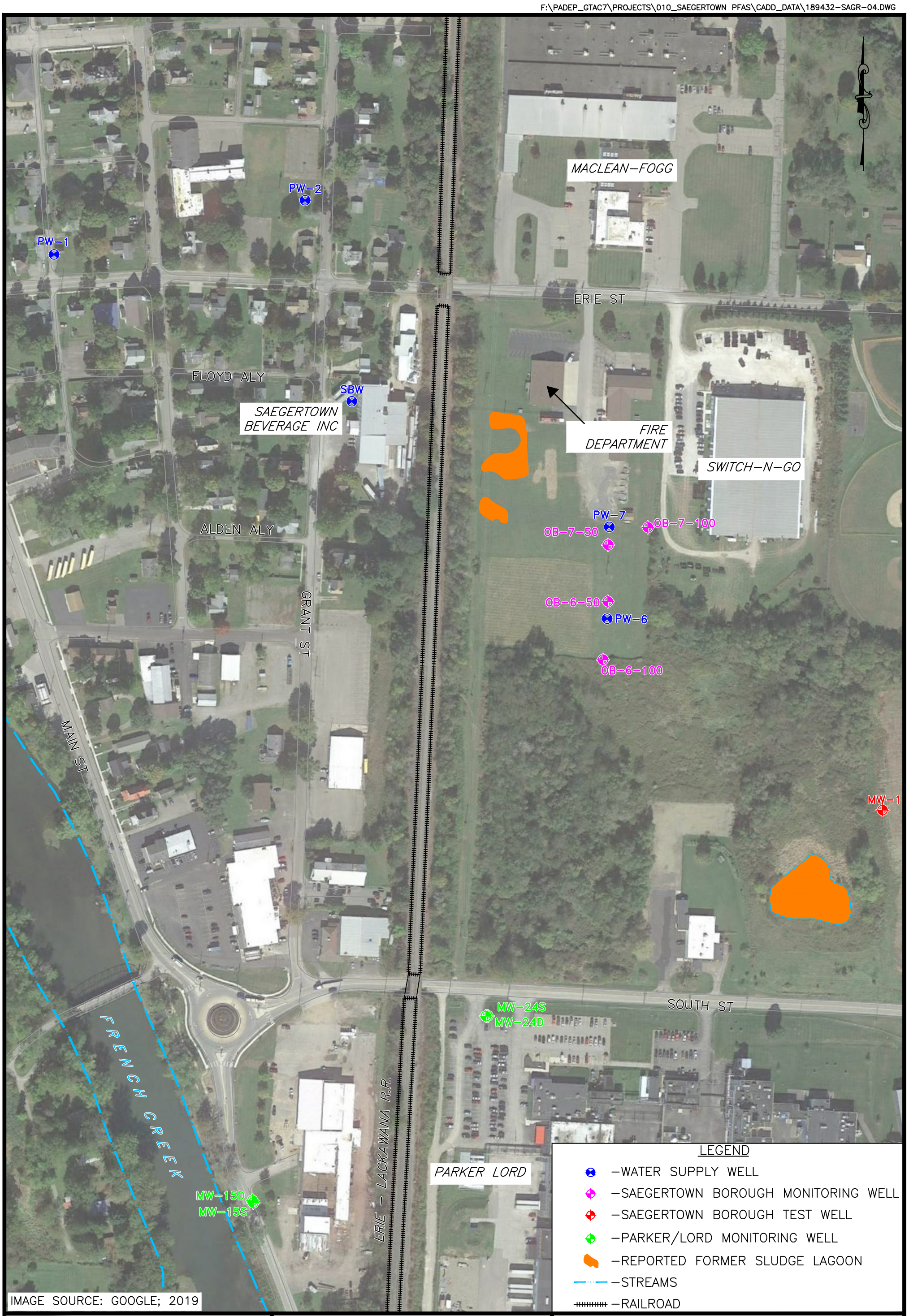

SCALE:	0 200
DATE:	JANUARY 2023
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-04

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OBG|Baker Environmental Solutions Joint Venture

FIGURE 2
WELL LOCATION MAP
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

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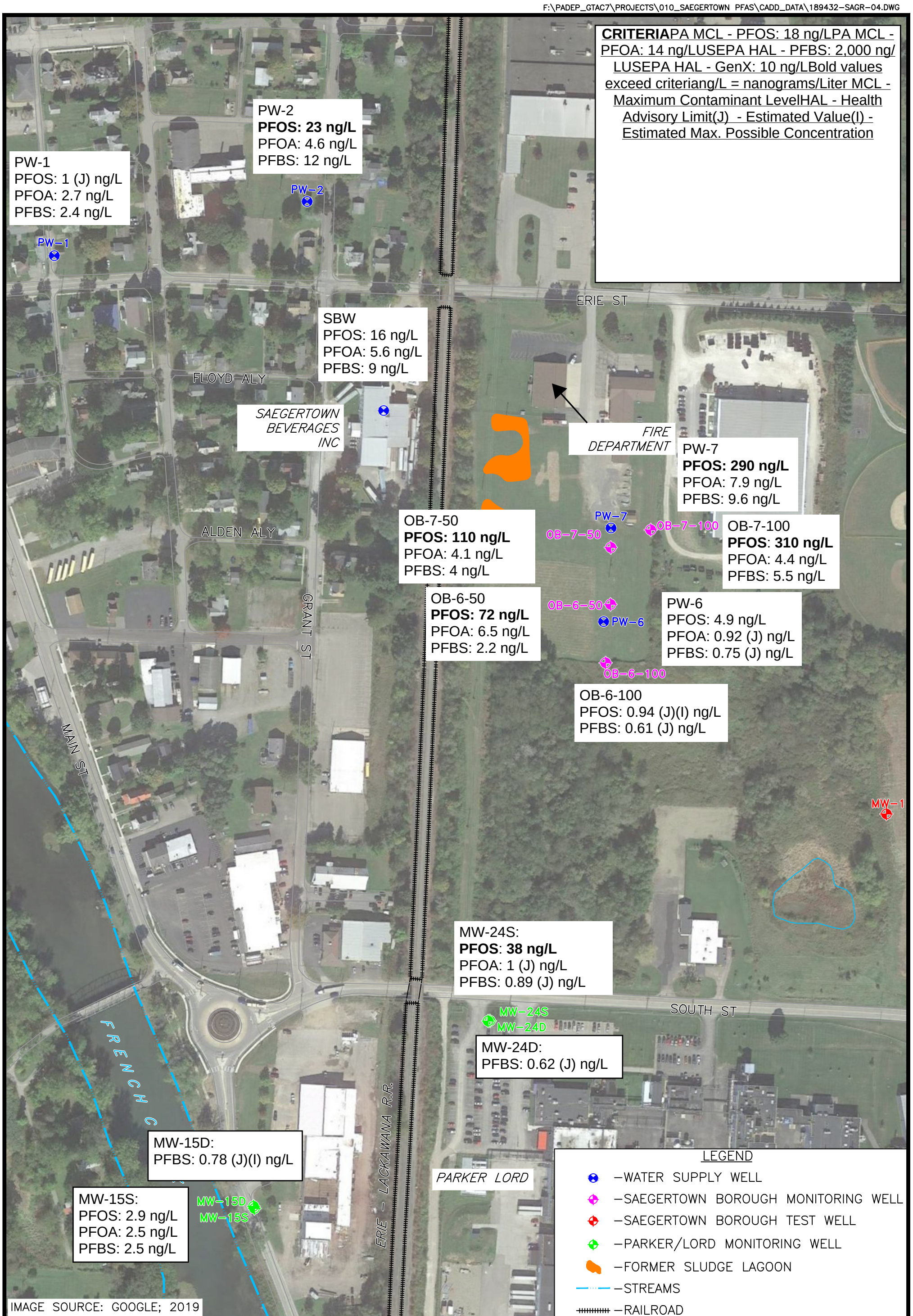

SCALE:	0 200
DATE:	JANUARY 2023
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-04

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Figure 3
Notable PFAS Detections in Groundwater - October 2022
Saegertown PFAS Site
Saegertown Borough
Crawford County, PA

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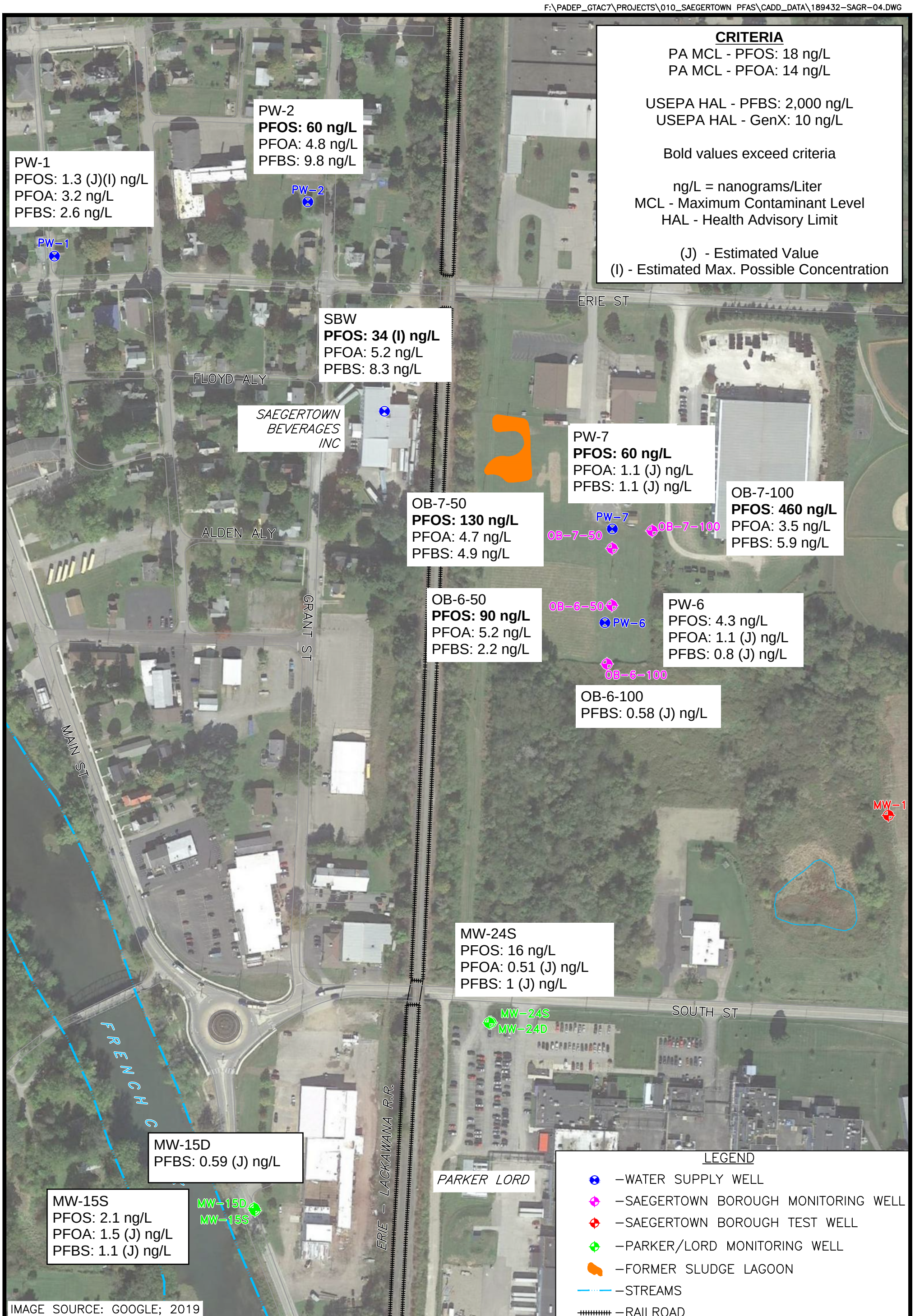

SCALE:	0 200
DATE:	JANUARY 2023
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-04

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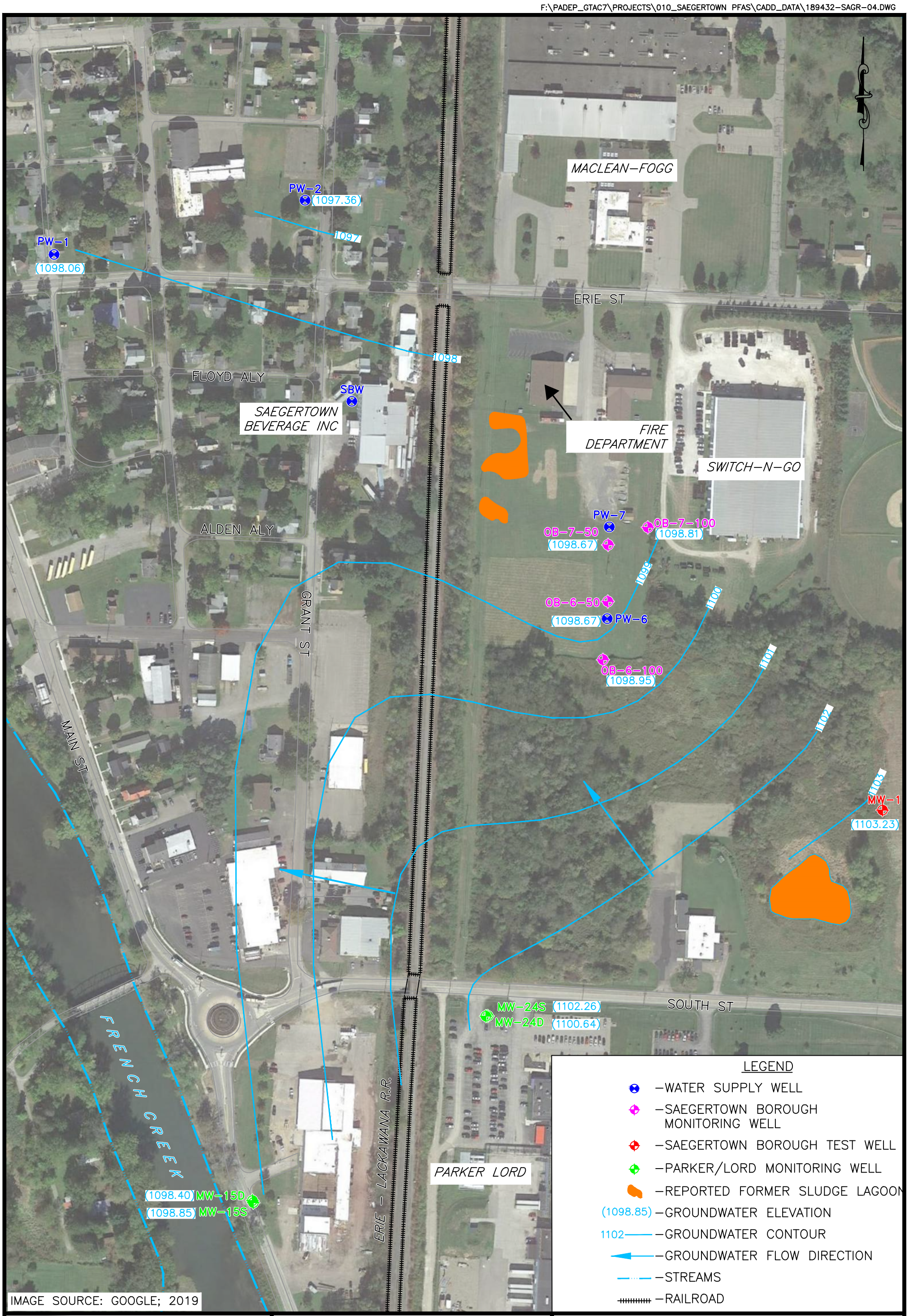
Figure 4
Notable PFAS Detections in Groundwater - January 2023
Saegertown PFAS Site
Saegertown Borough
Crawford County, PA

F:\PADEP_GTAC7\PROJECTS\010_SAEGERTOWN PFAS\CADD_DATA\189432-SAGR-04.DWG



SCALE:	0 200
DATE:	JANUARY 2023
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-04

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FIGURE 5
GROUNDWATER ELEVATION CONTOUR MAP – OCTOBER 2022
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

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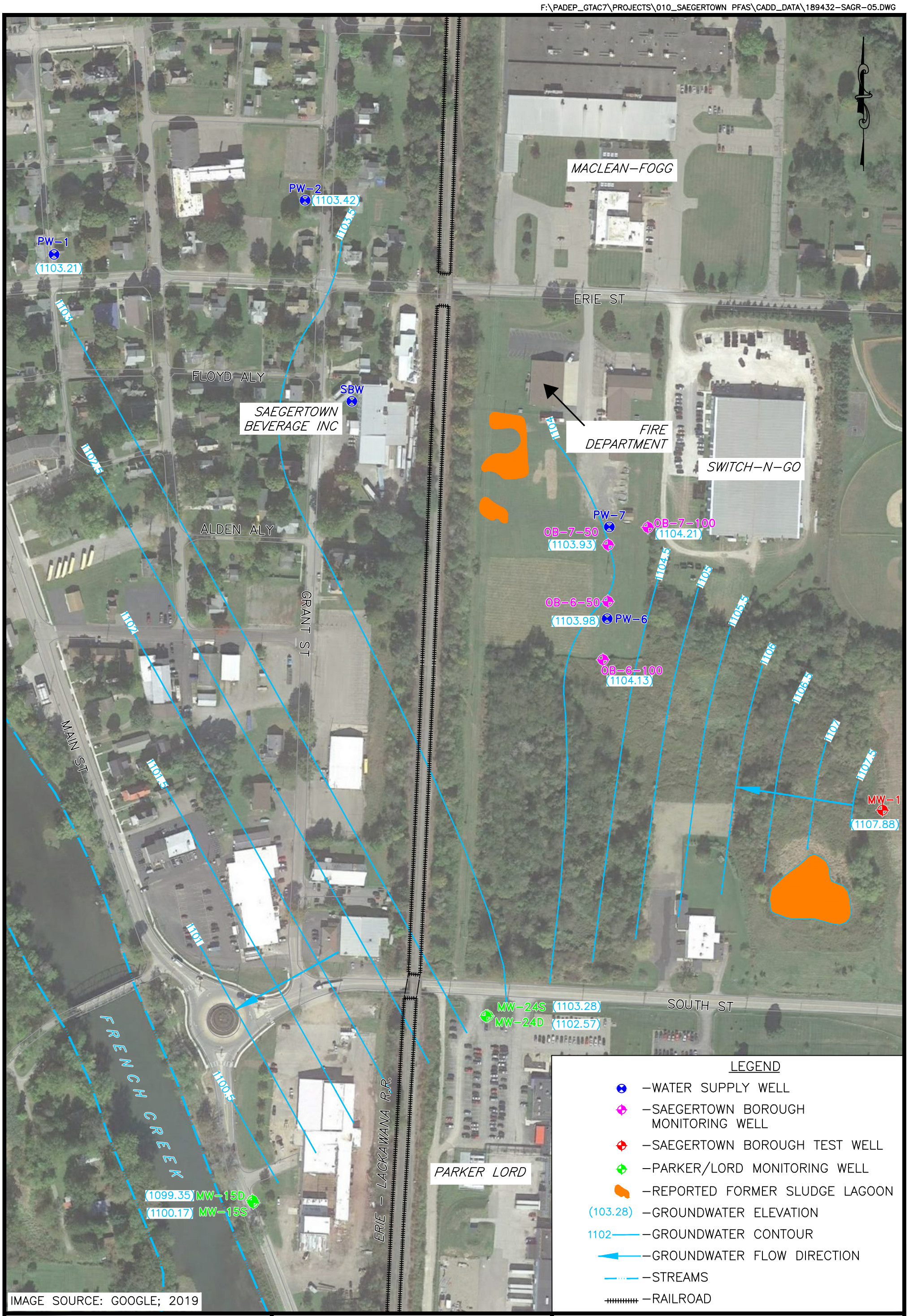

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DATE:	JANUARY 2023
DSN/DWN:	CHK/RRR
FILE:	189432-SAGR-05

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FIGURE 6
GROUNDWATER ELEVATION CONTOUR MAP - JANUARY 2023
SAEGERTOWN PFAS SITE
SAEGERTOWN BOROUGH,
CRAWFORD COUNTY, PENNSYLVANIA

ATTACHMENT A

PFAS Sampling Checklists and Considerations

PFAS Sampling Checklist

Date: 10/3/22

Weather (*temp./precipitation*): Sunny, 60s Site Name: Saegertown PFAS Site

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® or LDPE containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene
- ☑ Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Lead shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Field Lead Name: Brad Mikula

Field Lead Signature: [signature] Time: 1300

PFAS Sampling – Prohibited and Acceptable Items

Prohibited	Acceptable
Field Equipment	
Teflon® containing materials	High-density polyethylene (HDPE) materials
Low density polyethylene (LDPE) materials	Acetate Liners
	Silicon Tubing
Waterproof field books	Loose paper (non-waterproof)
Plastic clipboards, binders, or spiral hard cover notebooks	Aluminum field clipboards or with Masonite
Chemical (blue) ice packs	Regular ice
Field Clothing and PPE	
New cotton clothing or synthetic water resistant, waterproof, or stain-treated clothing, clothing containing Gore-Tex™	Well-laundered clothing made of natural fibers (preferable cotton)
Clothing laundered using fabric softener	No fabric softener
Boots containing Gore-Tex™	Boots made with polyurethane and PVC
Tyvek®	Cotton clothing
No cosmetics, moisturizers, hand cream, or other related products as part of personal cleaning/showering routine on the morning of sampling	**Sunscreens** - Alba Organics Natural Sunscreen, Yes To Cucumbers, Aubrey Organics, Jason Natural Sun Block, Kiss my face, Baby sunscreens that are "free" or "natural" **Insect Repellents** - Jason Natural Quit Bugging Me, Repel Lemon Eucalyptus Insect repellant, Herbal Armor, California Baby Natural Bug Spray, BabyGanics **Sunscreen and insect repellant** - Avon Skin So Soft Bug Guard Plus – SPF 30 Lotion
Sample Containers	
LDPE or glass containers	HDPE or polypropylene
Teflon-lined caps	Unlined polypropylene caps
Rain Events	
Waterproof or resistant rain gear	Gazebo tent that is only touched or moved prior to and following sampling activities
Equipment Decontamination	
Decon 90®	Alconox® and/or Liquinox®
Water from an on-site well	Potable water from municipal drinking water supply
Food Considerations	
All food and drink, with exceptions noted on right	Bottled water and hydration fluids (i.e, Gatorade® and Powerade®) to be brought and consumed only in the staging areas

Any potable water used on site must first be analyzed to be deemed PFAS-free

PFAS Sampling Checklist

Date: 1/9/23

Weather (*temp./precipitation*): Sunny, 40s Site Name: Saegertown PFAS Site

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® or LDPE containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene
- ☑ Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Lead shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Field Lead Name: Brad Mikula

Field Lead Signature: [signature] Time: 1400

PFAS Sampling – Prohibited and Acceptable Items

Prohibited	Acceptable
Field Equipment	
Teflon® containing materials	High-density polyethylene (HDPE) materials
Low density polyethylene (LDPE) materials	Acetate Liners
	Silicon Tubing
Waterproof field books	Loose paper (non-waterproof)
Plastic clipboards, binders, or spiral hard cover notebooks	Aluminum field clipboards or with Masonite
Chemical (blue) ice packs	Regular ice
Field Clothing and PPE	
New cotton clothing or synthetic water resistant, waterproof, or stain-treated clothing, clothing containing Gore-Tex™	Well-laundered clothing made of natural fibers (preferable cotton)
Clothing laundered using fabric softener	No fabric softener
Boots containing Gore-Tex™	Boots made with polyurethane and PVC
Tyvek®	Cotton clothing
No cosmetics, moisturizers, hand cream, or other related products as part of personal cleaning/showering routine on the morning of sampling	**Sunscreens** - Alba Organics Natural Sunscreen, Yes To Cucumbers, Aubrey Organics, Jason Natural Sun Block, Kiss my face, Baby sunscreens that are "free" or "natural" **Insect Repellents** - Jason Natural Quit Bugging Me, Repel Lemon Eucalyptus Insect repellant, Herbal Armor, California Baby Natural Bug Spray, BabyGanics **Sunscreen and insect repellant** - Avon Skin So Soft Bug Guard Plus – SPF 30 Lotion
Sample Containers	
LDPE or glass containers	HDPE or polypropylene
Teflon-lined caps	Unlined polypropylene caps
Rain Events	
Waterproof or resistant rain gear	Gazebo tent that is only touched or moved prior to and following sampling activities
Equipment Decontamination	
Decon 90®	Alconox® and/or Liquinox®
Water from an on-site well	Potable water from municipal drinking water supply
Food Considerations	
All food and drink, with exceptions noted on right	Bottled water and hydration fluids (i.e, Gatorade® and Powerade®) to be brought and consumed only in the staging areas

Any potable water used on site must first be analyzed to be deemed PFAS-free

ATTACHMENT B

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-101186-1
Client Project/Site: Saegertown PFAS Site

For:
Michael Baker International, Inc.
Airside Business Park
100 Airside Drive
Moon Township, Pennsylvania 15108

Attn: Mr. Chris Kupfer

Elizabeth M. Zanar

Authorized for release by:
11/9/2022 5:48:41 AM

Elizabeth Zanar, Project Manager
(717)556-7290
Elizabeth.Zanar@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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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.

Elizabeth M. Zanar

Elizabeth Zanar
Project Manager
11/9/2022 5:48:41 AM

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Qualifiers

LCMS

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
^c	CCV Recovery is outside acceptance limits.
cn	Refer to Case Narrative for further detail
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
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

Job ID: 410-101186-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-101186-1

Receipt
The samples were received on 10/7/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.6°C and 4.6°C

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

PFAS
Method PFC_IDA: The recovery for the labeled isotope: M2-4:2 FTS in the following samples: OB-7-100 (410-101186-3) and OB-7-50 (410-101186-4) is outside the QC acceptance limits. Since the recovery is high and the native analyte is not detected in the sample, the data is reported.

Method PFC_IDA: The recovery for labeled isotope: d5-NEtFOSAA is outside the QC acceptance limits in the opening continuing calibration verification standard, biased high. Since the recovery for the labeled isotope is within QC limits in the following samples: MW-1 (410-101186-9), MW-1 DUP (410-101186-10) and RB-1 (410-101186-11), the data is reported.

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

Detection Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-6-100 — Lab Sample ID: 410-101186-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	8.3		4.7	4.0	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	0.61	J	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	0.94	J I	1.9	0.94	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	2.7	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	2.6	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	2.6	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	2.7	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	5.3	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	2.6	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	2.7	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	5.3	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: OB-6-50 — Lab Sample ID: 410-101186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	5.7		4.7	3.9	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	2.2		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	6.0		4.7	1.9	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	0.97	J	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	3.1		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	31		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	5.9		1.9	0.85	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	0.95	J	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	72		1.9	0.94	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	6.5		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	1.7	J	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	6.0		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluoroundecanoic acid	0.49	J I	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	3.2	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	24	J !	25	10	ng/L	1		537 TOP	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: OB-6-50 (Continued) — Lab Sample ID: 410-101186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	4.1	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	22	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	18	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	55	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	9.3	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	9.6	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.6	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	18	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	3.6	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	12	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	1.0	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	2.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	37	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	6.0		4.7	1.9	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	6.0		1.9	0.47	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	5.9		1.9	0.85	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	3.1		1.9	0.47	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	6.5		1.9	0.47	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	0.95	J	1.9	0.47	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	28	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFBA	24	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	9.6	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	18	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	4.1	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	9.3	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	65	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: OB-7-100 — Lab Sample ID: 410-101186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	5.5		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	3.6	J	4.8	1.9	ng/L	1		537 IDA	Pre-Treatment
Perfluorodecanoic acid	1.3	J	1.9	0.48	ng/L	1		537 IDA	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: OB-7-100 (Continued)

Lab Sample ID: 410-101186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic acid	4.2		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	1.7	J	1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	84		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	3.1		1.9	0.86	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanesulfonic acid	2.0	I	1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	2.3		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	310		1.9	0.95	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	4.4		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	7.2		1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	1.8	J	1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluoroundecanoic acid	1.6	J I	1.9	0.48	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	6.5	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	10	J !	25	10	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanesulfonic acid	2.7	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanoic acid	3.2	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	84	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	36	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorononanoic acid	2.5	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	360	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	6.9	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	6.2	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	5.3	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	2.5	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	6.9	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	3.4	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	33	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	1.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	2.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.23	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	47	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	3.6	J	4.8	1.9	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	1.8	J	1.9	0.48	ng/L	1		Total PFCA-Sum	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: OB-7-100 (Continued) — Lab Sample ID: 410-101186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFHxA	3.1		1.9	0.86	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	1.7	J	1.9	0.48	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	4.4		1.9	0.48	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	2.3		1.9	0.48	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	17	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFBA	10	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	5.3	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	36	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	3.2	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	6.9	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFNA	2.5	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	64	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: OB-7-50 — Lab Sample ID: 410-101186-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	4.7		4.5	3.8	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	4.0		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorodecanoic acid	0.90	J I	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	4.3		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	1.2	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	66		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	1.8		1.8	0.81	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	4.6		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	110		1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	4.1		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	6.7		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	1.1	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroundecanoic acid	0.87	J I	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	4.8	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanesulfonic acid	2.6	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: OB-7-50 (Continued) — Lab Sample ID: 410-101186-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid	59	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	26	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorononanoic acid	4.6	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	89	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	5.5	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	6.0	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	6.3	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.4	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	5.2	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	24	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	1.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.022	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	30	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	1.1	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	1.8		1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	1.2	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	4.1		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	4.6		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	13	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	6.3	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	26	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	5.5	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFNA	4.6	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	42	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: MW-15S — Lab Sample ID: 410-101186-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	2.5		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	0.79	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	0.94	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	1.0	J	1.8	0.81	ng/L	1		537 IDA	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-15S (Continued) — Lab Sample ID: 410-101186-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	2.9		1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	2.5		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	1.2	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	3.8	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	4.1	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	3.2	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.9	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	2.0	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	1.6	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	1.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	1.2	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	1.0	J	1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	0.79	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	2.5		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	5.5	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	3.2	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	4.1	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	7.3	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: MW-15D — Lab Sample ID: 410-101186-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.78	J I	1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	0.91	J	1.9	0.85	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	1.9		1.9	0.47	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	3.1	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.2	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	1.2	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	0.29	!			ng/L	1		Total PFCA-Dif	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-15D (Continued) — Lab Sample ID: 410-101186-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFPA	1.9		1.9	0.47	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	0.91	J	1.9	0.85	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	2.8	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	3.1	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	3.1	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: MW-24S — Lab Sample ID: 410-101186-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.89	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	8.5		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	38		1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	1.0	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	6.9	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	14	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	30	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	3.8	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	2.1	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	14	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	2.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	17	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	1.0	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	1.0	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	14	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	3.8	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	18	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: MW-24D — Lab Sample ID: 410-101186-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.62	J	1.9	0.46	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	1.1	J	1.9	0.46	ng/L	1		537 IDA	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-24D (Continued) — Lab Sample ID: 410-101186-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.2	J	1.9	0.84	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	0.66	J	1.9	0.46	ng/L	1		537 IDA	Pre-Treatment
Adsorbable Organic Fluorine (AOF)	10	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.66	J	1.9	0.46	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	1.2	J	1.9	0.84	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	1.9	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment

Client Sample ID: MW-1 — Lab Sample ID: 410-101186-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Adsorbable Organic Fluorine (AOF)	13	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA

Client Sample ID: MW-1 DUP — Lab Sample ID: 410-101186-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Adsorbable Organic Fluorine (AOF)	2.9	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA

Client Sample ID: RB-1 — Lab Sample ID: 410-101186-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-6-100

Date Collected: 10/04/22 17:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-1

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
6:2 Fluorotelomer sulfonic acid	**8.3**		4.7	4.0	ng/L		10/10/22 18:35	10/21/22 02:57	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.94	ng/L		10/10/22 18:35	10/21/22 02:57	1
NEtFOSAA	ND		2.8	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
NMeFOSAA	ND		1.9	0.57	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorobutanesulfonic acid	**0.61**	**J**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorobutanoic acid	ND		4.7	1.9	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorodecanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorodecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorododecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluoroheptanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluoroheptanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorohexanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorohexanoic acid	ND		1.9	0.85	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorononanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorononanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorooctanesulfonamide	ND		1.9	0.66	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorooctanesulfonic acid	**0.94**	**J I**	1.9	0.94	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorooctanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluoropentanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluoropentanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorotetradecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluorotridecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1
Perfluoroundecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*198*		*10 - 200*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
M2-6:2 FTS	*166*		*17 - 200*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
M2-8:2 FTS	*169*		*33 - 200*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C2 PFTeDA	*43*		*10 - 179*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C3 PFBS	*100*		*16 - 200*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C4 PFBA	*103*		*42 - 165*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C4 PFHpA	*104*		*31 - 182*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C5 PFPeA	*120*		*38 - 187*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C8 PFOA	*100*		*48 - 162*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C8 PFOS	*104*		*51 - 159*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
d3-NMeFOSAA	*114*		*31 - 174*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
d5-NEtFOSAA	*99*		*29 - 195*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C3 PFHxS	*97*		*28 - 188*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C5 PFHxA	*97*		*24 - 179*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C6 PFDA	*102*		*49 - 163*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C7 PFUnA	*85*		*34 - 174*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C8 FOSA	*73*		*10 - 168*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C2-PFDoDA	*40*		*17 - 176*	*10/10/22 18:35*	*10/21/22 02:57*	*1*
13C9 PFNA	*110*		*51 - 167*	*10/10/22 18:35*	*10/21/22 02:57*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 19:24	1

Client Sample ID: OB-6-100

Date Collected: 10/04/22 17:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-1

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 19:24	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorooctanoic acid	**2.7**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluoropentanoic acid	**2.6**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*118*		*17 - 200*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
M2-8:2 FTS	*98*		*33 - 200*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C2 PFTeDA	*103*		*10 - 179*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C3 PFBS	*108*		*16 - 200*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C4 PFBA	*108*		*42 - 165*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C4 PFHpA	*117*		*31 - 182*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C5 PFPeA	*109*		*38 - 187*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C8 PFOA	*110*		*48 - 162*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C8 PFOS	*110*		*51 - 159*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
d5-NEtFOSAA	*95*		*29 - 195*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C3 PFHxS	*115*		*28 - 188*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C5 PFHxA	*111*		*24 - 179*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C6 PFDA	*104*		*49 - 163*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C7 PFUnA	*94*		*34 - 174*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C8 FOSA	*81*		*10 - 168*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C2-PFDoDA	*111*		*17 - 176*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C9 PFNA	*113*		*51 - 167*	*10/20/22 14:01*	*11/01/22 19:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*26 - 150*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C2 PFUnA	*90*		*11 - 187*	*10/20/22 14:01*	*11/01/22 19:24*	*1*
13C4 PFOA	*118*		*45 - 147*	*10/20/22 14:01*	*11/01/22 19:24*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND	!	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 16:32	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-6-100

Lab Sample ID: 410-101186-1

Date Collected: 10/04/22 17:45
Date Received: 10/07/22 10:10

Matrix: Water

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**2.6**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**2.7**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**5.3**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.7	1.9	ng/L			11/03/22 06:25	1
PFPA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
PFHxA	ND		1.9	0.85	ng/L			11/03/22 06:25	1
PFHpA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
PFOA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
PFNA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	**2.6**	**J !**	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	**2.7**	**J ! !**	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	**5.3**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: OB-6-50

Lab Sample ID: 410-101186-2

Date Collected: 10/04/22 18:35
Date Received: 10/07/22 10:10

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
6:2 Fluorotelomer sulfonic acid	**5.7**		4.7	3.9	ng/L		10/10/22 18:35	10/21/22 03:08	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.94	ng/L		10/10/22 18:35	10/21/22 03:08	1
NEtFOSAA	ND		2.8	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
NMeFOSAA	ND		1.9	0.56	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorobutanesulfonic acid	**2.2**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorobutanoic acid	**6.0**		4.7	1.9	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorodecanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorodecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorododecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluoroheptanesulfonic acid	**0.97**	**J**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluoroheptanoic acid	**3.1**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorohexanesulfonic acid	**31**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorohexanoic acid	**5.9**		1.9	0.85	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorononanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorononanoic acid	**0.95**	**J**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1

Client Sample ID: OB-6-50

Date Collected: 10/04/22 18:35
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-2

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.9	0.66	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorooctanesulfonic acid	**72**		1.9	0.94	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorooctanoic acid	**6.5**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluoropentanesulfonic acid	**1.7**	**J**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluoropentanoic acid	**6.0**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorotetradecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluorotridecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1
Perfluoroundecanoic acid	**0.49**	**J I**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*197*		*10 - 200*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
M2-6:2 FTS	*142*		*17 - 200*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
M2-8:2 FTS	*136*		*33 - 200*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C2 PFTeDA	*43*		*10 - 179*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C3 PFBS	*88*		*16 - 200*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C4 PFBA	*95*		*42 - 165*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C4 PFHpA	*100*		*31 - 182*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C5 PFPeA	*88*		*38 - 187*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C8 PFOA	*95*		*48 - 162*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C8 PFOS	*97*		*51 - 159*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
d3-NMeFOSAA	*115*		*31 - 174*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
d5-NEtFOSAA	*105*		*29 - 195*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C3 PFHxS	*89*		*28 - 188*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C5 PFHxA	*91*		*24 - 179*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C6 PFDA	*93*		*49 - 163*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C7 PFUnA	*85*		*34 - 174*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C8 FOSA	*69*		*10 - 168*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C2-PFDoDA	*51*		*17 - 176*	*10/10/22 18:35*	*10/21/22 03:08*	*1*
13C9 PFNA	*101*		*51 - 167*	*10/10/22 18:35*	*10/21/22 03:08*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 19:35	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 19:35	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorobutanesulfonic acid	**3.2**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorobutanoic acid	**24**	**J !**	25	10	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluoroheptanoic acid	**4.1**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorohexanesulfonic acid	**22**	**!**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorohexanoic acid	**18**	**I !**	10	4.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorooctanesulfonic acid	**55**	**!**	10	5.0	ng/L		10/20/22 14:01	11/01/22 19:35	1

Client Sample ID: OB-6-50

Date Collected: 10/04/22 18:35
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-2

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	9.3	J I !	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluoropentanoic acid	9.6	J !	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*119*		*17 - 200*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
M2-8:2 FTS	*111*		*33 - 200*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C2 PFTeDA	*118*		*10 - 179*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C3 PFBS	*115*		*16 - 200*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C4 PFBA	*116*		*42 - 165*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C4 PFHpA	*115*		*31 - 182*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C5 PFPeA	*109*		*38 - 187*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C8 PFOA	*114*		*48 - 162*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C8 PFOS	*121*		*51 - 159*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
d5-NEtFOSAA	*103*		*29 - 195*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C3 PFHxS	*111*		*28 - 188*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C5 PFHxA	*119*		*24 - 179*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C6 PFDA	*113*		*49 - 163*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C7 PFUnA	*103*		*34 - 174*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C8 FOSA	*93*		*10 - 168*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C2-PFDoDA	*115*		*17 - 176*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C9 PFNA	*126*		*51 - 167*	*10/20/22 14:01*	*11/01/22 19:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*26 - 150*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C2 PFUnA	*90*		*11 - 187*	*10/20/22 14:01*	*11/01/22 19:35*	*1*
13C4 PFOA	*109*		*45 - 147*	*10/20/22 14:01*	*11/01/22 19:35*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	1.6	J !	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 17:08	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	18	!			ng/L			11/03/22 06:29	1
PFPA	3.6	!			ng/L			11/03/22 06:29	1
PFHxA	12	!			ng/L			11/03/22 06:29	1
PFHpA	1.0	!			ng/L			11/03/22 06:29	1
PFOA	2.8	!			ng/L			11/03/22 06:29	1
PFNA	0.00	!			ng/L			11/03/22 06:29	1
Total PFCA	37	!			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	6.0		4.7	1.9	ng/L			11/03/22 06:25	1
PFPA	6.0		1.9	0.47	ng/L			11/03/22 06:25	1
PFHxA	5.9		1.9	0.85	ng/L			11/03/22 06:25	1

Client Sample ID: OB-6-50

Lab Sample ID: 410-101186-2

Date Collected: 10/04/22 18:35

Matrix: Water

Date Received: 10/07/22 10:10

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFHpA	3.1		1.9	0.47	ng/L			11/03/22 06:25	1
PFOA	6.5		1.9	0.47	ng/L			11/03/22 06:25	1
PFNA	0.95	J	1.9	0.47	ng/L			11/03/22 06:25	1
Total PFCA	28	J !	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	24	J !	25	10	ng/L			11/03/22 06:25	1
PFPA	9.6	J !	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	18	I !	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	4.1	J I !	10	2.5	ng/L			11/03/22 06:25	1
PFOA	9.3	J I !	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	65	J !	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: OB-7-100

Lab Sample ID: 410-101186-3

Date Collected: 10/04/22 19:20

Matrix: Water

Date Received: 10/07/22 10:10

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	*5+	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
6:2 Fluorotelomer sulfonic acid	ND		4.8	4.0	ng/L		10/10/22 18:35	10/21/22 03:19	1
8:2 Fluorotelomer sulfonic acid	ND		2.9	0.95	ng/L		10/10/22 18:35	10/21/22 03:19	1
NEtFOSAA	ND		2.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
NMeFOSAA	ND		1.9	0.57	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorobutanesulfonic acid	5.5		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorobutanoic acid	3.6	J	4.8	1.9	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorodecanesulfonic acid	ND		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorodecanoic acid	1.3	J	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorododecanoic acid	ND		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluoroheptanesulfonic acid	4.2		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluoroheptanoic acid	1.7	J	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorohexanesulfonic acid	84		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorohexanoic acid	3.1		1.9	0.86	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorononanesulfonic acid	2.0	I	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorononanoic acid	2.3		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorooctanesulfonamide	ND		1.9	0.67	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorooctanesulfonic acid	310		1.9	0.95	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorooctanoic acid	4.4		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluoropentanesulfonic acid	7.2		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluoropentanoic acid	1.8	J	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorotetradecanoic acid	ND		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluorotridecanoic acid	ND		1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1
Perfluoroundecanoic acid	1.6	J I	1.9	0.48	ng/L		10/10/22 18:35	10/21/22 03:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*272*	**5+ cn*	*10 - 200*	*10/10/22 18:35*	*10/21/22 03:19*	*1*
M2-6:2 FTS	*187*		*17 - 200*	*10/10/22 18:35*	*10/21/22 03:19*	*1*
M2-8:2 FTS	*145*		*33 - 200*	*10/10/22 18:35*	*10/21/22 03:19*	*1*
13C2 PFTeDA	*67*		*10 - 179*	*10/10/22 18:35*	*10/21/22 03:19*	*1*

Client Sample ID: OB-7-100

Date Collected: 10/04/22 19:20
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-3

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	115		16 - 200	10/10/22 18:35	10/21/22 03:19	1
13C4 PFBA	99		42 - 165	10/10/22 18:35	10/21/22 03:19	1
13C4 PFHpA	98		31 - 182	10/10/22 18:35	10/21/22 03:19	1
13C5 PFPeA	109		38 - 187	10/10/22 18:35	10/21/22 03:19	1
13C8 PFOA	101		48 - 162	10/10/22 18:35	10/21/22 03:19	1
13C8 PFOS	107		51 - 159	10/10/22 18:35	10/21/22 03:19	1
d3-NMeFOSAA	125		31 - 174	10/10/22 18:35	10/21/22 03:19	1
d5-NEtFOSAA	128		29 - 195	10/10/22 18:35	10/21/22 03:19	1
13C3 PFHxS	98		28 - 188	10/10/22 18:35	10/21/22 03:19	1
13C5 PFHxA	93		24 - 179	10/10/22 18:35	10/21/22 03:19	1
13C6 PFDA	103		49 - 163	10/10/22 18:35	10/21/22 03:19	1
13C7 PFUnA	100		34 - 174	10/10/22 18:35	10/21/22 03:19	1
13C8 FOSA	83		10 - 168	10/10/22 18:35	10/21/22 03:19	1
13C2-PFDoDA	69		17 - 176	10/10/22 18:35	10/21/22 03:19	1
13C9 PFNA	101		51 - 167	10/10/22 18:35	10/21/22 03:19	1

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 19:46	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 19:46	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorobutanesulfonic acid	**6.5**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorobutanoic acid	**10**	**J !**	25	10	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluoroheptanesulfonic acid	**2.7**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluoroheptanoic acid	**3.2**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorohexanesulfonic acid	**84**	**!**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorohexanoic acid	**36**	**I !**	10	4.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorononanoic acid	**2.5**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorooctanesulfonic acid	**360**	**!**	10	5.0	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorooctanoic acid	**6.9**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluoropentanesulfonic acid	**6.2**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluoropentanoic acid	**5.3**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	129		17 - 200	10/20/22 14:01	11/01/22 19:46	1
M2-8:2 FTS	123		33 - 200	10/20/22 14:01	11/01/22 19:46	1
13C2 PFTeDA	122		10 - 179	10/20/22 14:01	11/01/22 19:46	1
13C3 PFBS	123		16 - 200	10/20/22 14:01	11/01/22 19:46	1
13C4 PFBA	122		42 - 165	10/20/22 14:01	11/01/22 19:46	1
13C4 PFHpA	120		31 - 182	10/20/22 14:01	11/01/22 19:46	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-7-100

Date Collected: 10/04/22 19:20
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-3

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*120*		*38 - 187*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C8 PFOA	*126*		*48 - 162*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C8 PFOS	*121*		*51 - 159*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
d5-NEtFOSAA	*114*		*29 - 195*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C3 PFHxS	*117*		*28 - 188*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C5 PFHxA	*125*		*24 - 179*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C6 PFDA	*120*		*49 - 163*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C7 PFUnA	*111*		*34 - 174*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C8 FOSA	*100*		*10 - 168*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C2-PFDoDA	*124*		*17 - 176*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C9 PFNA	*129*		*51 - 167*	*10/20/22 14:01*	*11/01/22 19:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*119*		*26 - 150*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C2 PFUnA	*99*		*11 - 187*	*10/20/22 14:01*	*11/01/22 19:46*	*1*
13C4 PFOA	*125*		*45 - 147*	*10/20/22 14:01*	*11/01/22 19:46*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	2.5	!	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 17:43	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	6.9	!			ng/L			11/03/22 06:29	1
PFPA	3.4	!			ng/L			11/03/22 06:29	1
PFHxA	33	!			ng/L			11/03/22 06:29	1
PFHpA	1.5	!			ng/L			11/03/22 06:29	1
PFOA	2.5	!			ng/L			11/03/22 06:29	1
PFNA	0.23	!			ng/L			11/03/22 06:29	1
Total PFCA	47	!			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	3.6	J	4.8	1.9	ng/L			11/03/22 06:25	1
PFPA	1.8	J	1.9	0.48	ng/L			11/03/22 06:25	1
PFHxA	3.1		1.9	0.86	ng/L			11/03/22 06:25	1
PFHpA	1.7	J	1.9	0.48	ng/L			11/03/22 06:25	1
PFOA	4.4		1.9	0.48	ng/L			11/03/22 06:25	1
PFNA	2.3		1.9	0.48	ng/L			11/03/22 06:25	1
Total PFCA	17	J !	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	10	J !	25	10	ng/L			11/03/22 06:25	1
PFPA	5.3	J !	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	36	I !	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	3.2	J I !	10	2.5	ng/L			11/03/22 06:25	1
PFOA	6.9	J I !	10	2.5	ng/L			11/03/22 06:25	1
PFNA	2.5	J I !	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	64	J !	500	0.50	ng/L			11/03/22 06:25	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-7-50

Date Collected: 10/04/22 20:10
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-4

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	*5+	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
6:2 Fluorotelomer sulfonic acid	**4.7**		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 03:30	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 03:30	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorobutanesulfonic acid	**4.0**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorobutanoic acid	ND		4.5	1.8	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorodecanoic acid	**0.90**	**J I**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluoroheptanesulfonic acid	**4.3**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluoroheptanoic acid	**1.2**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorohexanesulfonic acid	**66**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorohexanoic acid	**1.8**		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorononanoic acid	**4.6**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorooctanesulfonic acid	**110**		1.8	0.90	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorooctanoic acid	**4.1**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluoropentanesulfonic acid	**6.7**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluoropentanoic acid	**1.1**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1
Perfluoroundecanoic acid	**0.87**	**J I**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*201*	**5+ cn*	*10 - 200*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
M2-6:2 FTS	*161*		*17 - 200*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
M2-8:2 FTS	*142*		*33 - 200*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C2 PFTeDA	*24*		*10 - 179*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C3 PFBS	*92*		*16 - 200*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C4 PFBA	*94*		*42 - 165*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C4 PFHpA	*94*		*31 - 182*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C5 PFPeA	*99*		*38 - 187*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C8 PFOA	*89*		*48 - 162*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C8 PFOS	*86*		*51 - 159*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
d3-NMeFOSAA	*110*		*31 - 174*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
d5-NEtFOSAA	*89*		*29 - 195*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C3 PFHxS	*87*		*28 - 188*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C5 PFHxA	*89*		*24 - 179*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C6 PFDA	*86*		*49 - 163*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C7 PFUnA	*71*		*34 - 174*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C8 FOSA	*57*		*10 - 168*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C2-PFDoDA	*33*		*17 - 176*	*10/10/22 18:35*	*10/21/22 03:30*	*1*
13C9 PFNA	*87*		*51 - 167*	*10/10/22 18:35*	*10/21/22 03:30*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 19:57	1

Client Sample ID: OB-7-50

Date Collected: 10/04/22 20:10
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-4

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 19:57	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorobutanesulfonic acid	**4.8**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluoroheptanesulfonic acid	**2.6**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorohexanesulfonic acid	**59**	**!**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorohexanoic acid	**26**	**I !**	10	4.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorononanoic acid	**4.6**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorooctanesulfonic acid	**89**	**!**	10	5.0	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorooctanoic acid	**5.5**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluoropentanesulfonic acid	**6.0**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluoropentanoic acid	**6.3**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 19:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*115*		*17 - 200*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
M2-8:2 FTS	*95*		*33 - 200*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C2 PFTeDA	*115*		*10 - 179*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C3 PFBS	*115*		*16 - 200*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C4 PFBA	*119*		*42 - 165*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C4 PFHpA	*116*		*31 - 182*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C5 PFPeA	*113*		*38 - 187*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C8 PFOA	*117*		*48 - 162*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C8 PFOS	*122*		*51 - 159*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
d5-NEtFOSAA	*109*		*29 - 195*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C3 PFHxS	*107*		*28 - 188*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C5 PFHxA	*117*		*24 - 179*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C6 PFDA	*114*		*49 - 163*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C7 PFUnA	*106*		*34 - 174*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C8 FOSA	*91*		*10 - 168*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C2-PFDoDA	*113*		*17 - 176*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C9 PFNA	*127*		*51 - 167*	*10/20/22 14:01*	*11/01/22 19:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*26 - 150*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C2 PFUnA	*97*		*11 - 187*	*10/20/22 14:01*	*11/01/22 19:57*	*1*
13C4 PFOA	*120*		*45 - 147*	*10/20/22 14:01*	*11/01/22 19:57*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**1.4**	**J !**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 18:18	1

Client Sample ID: OB-7-50

Lab Sample ID: 410-101186-4

Date Collected: 10/04/22 20:10

Matrix: Water

Date Received: 10/07/22 10:10

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	0.00	!			ng/L			11/03/22 06:29	1
PFPA	5.2	!			ng/L			11/03/22 06:29	1
PFHxA	24	!			ng/L			11/03/22 06:29	1
PFHpA	0.00	!			ng/L			11/03/22 06:29	1
PFOA	1.5	!			ng/L			11/03/22 06:29	1
PFNA	0.022	!			ng/L			11/03/22 06:29	1
Total PFCA	30	!			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.5	1.8	ng/L			11/03/22 06:25	1
PFPA	1.1	J	1.8	0.45	ng/L			11/03/22 06:25	1
PFHxA	1.8		1.8	0.81	ng/L			11/03/22 06:25	1
PFHpA	1.2	J	1.8	0.45	ng/L			11/03/22 06:25	1
PFOA	4.1		1.8	0.45	ng/L			11/03/22 06:25	1
PFNA	4.6		1.8	0.45	ng/L			11/03/22 06:25	1
Total PFCA	13	J !	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	6.3	J !	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	26	I !	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	5.5	J I !	10	2.5	ng/L			11/03/22 06:25	1
PFNA	4.6	J I !	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	42	J !	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: MW-15S

Lab Sample ID: 410-101186-5

Date Collected: 10/05/22 13:45

Matrix: Water

Date Received: 10/07/22 10:10

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 03:41	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 03:41	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorobutanesulfonic acid	2.5		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorobutanoic acid	ND		4.5	1.8	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluoroheptanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluoroheptanoic acid	0.79	J	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorohexanesulfonic acid	0.94	J	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorohexanoic acid	1.0	J	1.8	0.81	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorononanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-15S

Date Collected: 10/05/22 13:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-5

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorooctanesulfonic acid	**2.9**		1.8	0.90	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorooctanoic acid	**2.5**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluoropentanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluoropentanoic acid	**1.2**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 03:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*150*		*10 - 200*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
M2-6:2 FTS	*114*		*17 - 200*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
M2-8:2 FTS	*103*		*33 - 200*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C2 PFTeDA	*75*		*10 - 179*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C3 PFBS	*101*		*16 - 200*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C4 PFBA	*89*		*42 - 165*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C4 PFHpA	*88*		*31 - 182*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C5 PFPeA	*101*		*38 - 187*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C8 PFOA	*89*		*48 - 162*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C8 PFOS	*92*		*51 - 159*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
d3-NMeFOSAA	*98*		*31 - 174*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
d5-NEtFOSAA	*98*		*29 - 195*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C3 PFHxS	*96*		*28 - 188*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C5 PFHxA	*86*		*24 - 179*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C6 PFDA	*86*		*49 - 163*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C7 PFUnA	*82*		*34 - 174*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C8 FOSA	*72*		*10 - 168*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C2-PFDoDA	*71*		*17 - 176*	*10/10/22 18:35*	*10/21/22 03:41*	*1*
13C9 PFNA	*90*		*51 - 167*	*10/10/22 18:35*	*10/21/22 03:41*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 20:08	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 20:08	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorobutanesulfonic acid	**3.8**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 20:08	1

Client Sample ID: MW-15S

Date Collected: 10/05/22 13:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-5

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**4.1**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluoropentanoic acid	**3.2**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*116*		*17 - 200*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
M2-8:2 FTS	*111*		*33 - 200*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C2 PFTeDA	*122*		*10 - 179*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C3 PFBS	*116*		*16 - 200*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C4 PFBA	*120*		*42 - 165*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C4 PFHpA	*108*		*31 - 182*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C5 PFPeA	*114*		*38 - 187*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C8 PFOA	*114*		*48 - 162*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C8 PFOS	*127*		*51 - 159*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
d5-NEtFOSAA	*106*		*29 - 195*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C3 PFHxS	*106*		*28 - 188*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C5 PFHxA	*113*		*24 - 179*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C6 PFDA	*116*		*49 - 163*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C7 PFUnA	*114*		*34 - 174*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C8 FOSA	*94*		*10 - 168*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C2-PFDoDA	*122*		*17 - 176*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C9 PFNA	*137*		*51 - 167*	*10/20/22 14:01*	*11/01/22 20:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*26 - 150*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C2 PFUnA	*100*		*11 - 187*	*10/20/22 14:01*	*11/01/22 20:08*	*1*
13C4 PFOA	*121*		*45 - 147*	*10/20/22 14:01*	*11/01/22 20:08*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**1.9**	**J !**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 18:53	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**2.0**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**1.6**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**1.8**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.5	1.8	ng/L			11/03/22 06:25	1
PFPA	**1.2**	**J**	1.8	0.45	ng/L			11/03/22 06:25	1
PFHxA	**1.0**	**J**	1.8	0.81	ng/L			11/03/22 06:25	1

Client Sample ID: MW-15S

Lab Sample ID: 410-101186-5

Date Collected: 10/05/22 13:45
Date Received: 10/07/22 10:10

Matrix: Water

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFHpA	**0.79**	**J**	1.8	0.45	ng/L			11/03/22 06:25	1
PFOA	**2.5**		1.8	0.45	ng/L			11/03/22 06:25	1
PFNA	ND		1.8	0.45	ng/L			11/03/22 06:25	1
Total PFCA	**5.5**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	**3.2**	**J !**	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	**4.1**	**J I !**	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	**7.3**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: MW-15D

Lab Sample ID: 410-101186-6

Date Collected: 10/05/22 15:50
Date Received: 10/07/22 10:10

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
6:2 Fluorotelomer sulfonic acid	ND		4.7	4.0	ng/L		10/10/22 18:35	10/21/22 03:52	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.94	ng/L		10/10/22 18:35	10/21/22 03:52	1
NEtFOSAA	ND		2.8	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
NMeFOSAA	ND		1.9	0.56	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorobutanesulfonic acid	**0.78**	**J I**	1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorobutanoic acid	ND		4.7	1.9	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorodecanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorodecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorododecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluoroheptanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluoroheptanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorohexanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorohexanoic acid	**0.91**	**J**	1.9	0.85	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorononanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorononanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorooctanesulfonamide	ND		1.9	0.66	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorooctanesulfonic acid	ND		1.9	0.94	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorooctanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluoropentanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluoropentanoic acid	**1.9**		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorotetradecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluorotridecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1
Perfluoroundecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 03:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*147*		*10 - 200*	*10/10/22 18:35*	*10/21/22 03:52*	*1*
M2-6:2 FTS	*106*		*17 - 200*	*10/10/22 18:35*	*10/21/22 03:52*	*1*
M2-8:2 FTS	*109*		*33 - 200*	*10/10/22 18:35*	*10/21/22 03:52*	*1*
13C2 PFTeDA	*87*		*10 - 179*	*10/10/22 18:35*	*10/21/22 03:52*	*1*

Client Sample ID: MW-15D

Date Collected: 10/05/22 15:50
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-6

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	111		16 - 200	10/10/22 18:35	10/21/22 03:52	1
13C4 PFBA	95		42 - 165	10/10/22 18:35	10/21/22 03:52	1
13C4 PFHpA	97		31 - 182	10/10/22 18:35	10/21/22 03:52	1
13C5 PFPeA	101		38 - 187	10/10/22 18:35	10/21/22 03:52	1
13C8 PFOA	96		48 - 162	10/10/22 18:35	10/21/22 03:52	1
13C8 PFOS	112		51 - 159	10/10/22 18:35	10/21/22 03:52	1
d3-NMeFOSAA	97		31 - 174	10/10/22 18:35	10/21/22 03:52	1
d5-NEtFOSAA	102		29 - 195	10/10/22 18:35	10/21/22 03:52	1
13C3 PFHxS	101		28 - 188	10/10/22 18:35	10/21/22 03:52	1
13C5 PFHxA	92		24 - 179	10/10/22 18:35	10/21/22 03:52	1
13C6 PFDA	94		49 - 163	10/10/22 18:35	10/21/22 03:52	1
13C7 PFUnA	93		34 - 174	10/10/22 18:35	10/21/22 03:52	1
13C8 FOSA	65		10 - 168	10/10/22 18:35	10/21/22 03:52	1
13C2-PFDoDA	84		17 - 176	10/10/22 18:35	10/21/22 03:52	1
13C9 PFNA	108		51 - 167	10/10/22 18:35	10/21/22 03:52	1

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 20:19	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 20:19	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorooctanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluoropentanoic acid	**3.1**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	134		17 - 200	10/20/22 14:01	11/01/22 20:19	1
M2-8:2 FTS	106		33 - 200	10/20/22 14:01	11/01/22 20:19	1
13C2 PFTeDA	127		10 - 179	10/20/22 14:01	11/01/22 20:19	1
13C3 PFBS	120		16 - 200	10/20/22 14:01	11/01/22 20:19	1
13C4 PFBA	125		42 - 165	10/20/22 14:01	11/01/22 20:19	1
13C4 PFHpA	128		31 - 182	10/20/22 14:01	11/01/22 20:19	1

Client Sample ID: MW-15D

Date Collected: 10/05/22 15:50
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-6

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*120*		*38 - 187*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C8 PFOA	*129*		*48 - 162*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C8 PFOS	*132*		*51 - 159*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
d5-NEtFOSAA	*116*		*29 - 195*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C3 PFHxS	*119*		*28 - 188*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C5 PFHxA	*129*		*24 - 179*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C6 PFDA	*125*		*49 - 163*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C7 PFUnA	*126*		*34 - 174*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C8 FOSA	*100*		*10 - 168*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C2-PFDoDA	*138*		*17 - 176*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C9 PFNA	*140*		*51 - 167*	*10/20/22 14:01*	*11/01/22 20:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*125*		*26 - 150*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C2 PFUnA	*103*		*11 - 187*	*10/20/22 14:01*	*11/01/22 20:19*	*1*
13C4 PFOA	*128*		*45 - 147*	*10/20/22 14:01*	*11/01/22 20:19*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**1.2**	**J !**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 21:50	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**1.2**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**0.29**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.7	1.9	ng/L			11/03/22 06:25	1
PFPA	**1.9**		1.9	0.47	ng/L			11/03/22 06:25	1
PFHxA	**0.91**	**J**	1.9	0.85	ng/L			11/03/22 06:25	1
PFHpA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
PFOA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
PFNA	ND		1.9	0.47	ng/L			11/03/22 06:25	1
Total PFCA	**2.8**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	**3.1**	**J !**	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	**3.1**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-24S

Date Collected: 10/05/22 09:55
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-7

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 04:03	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 04:03	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorobutanesulfonic acid	**0.89**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorobutanoic acid	ND		4.5	1.8	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluoroheptanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluoroheptanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorohexanesulfonic acid	**8.5**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorohexanoic acid	ND		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorononanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorooctanesulfonic acid	**38**		1.8	0.90	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorooctanoic acid	**1.0**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluoropentanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluoropentanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 04:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*184*		*10 - 200*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
M2-6:2 FTS	*131*		*17 - 200*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
M2-8:2 FTS	*126*		*33 - 200*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C2 PFTeDA	*85*		*10 - 179*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C3 PFBS	*116*		*16 - 200*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C4 PFBA	*99*		*42 - 165*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C4 PFHpA	*105*		*31 - 182*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C5 PFPeA	*121*		*38 - 187*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C8 PFOA	*98*		*48 - 162*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C8 PFOS	*100*		*51 - 159*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
d3-NMeFOSAA	*117*		*31 - 174*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
d5-NEtFOSAA	*109*		*29 - 195*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C3 PFHxS	*109*		*28 - 188*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C5 PFHxA	*99*		*24 - 179*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C6 PFDA	*97*		*49 - 163*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C7 PFUnA	*96*		*34 - 174*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C8 FOSA	*83*		*10 - 168*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C2-PFDoDA	*78*		*17 - 176*	*10/10/22 18:35*	*10/21/22 04:03*	*1*
13C9 PFNA	*98*		*51 - 167*	*10/10/22 18:35*	*10/21/22 04:03*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 20:30	1

Client Sample ID: MW-24S

Date Collected: 10/05/22 09:55
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-7

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 20:30	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorohexanesulfonic acid	**6.9**	**J !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorohexanoic acid	**14**	**I !**	10	4.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorooctanesulfonic acid	**30**	**!**	10	5.0	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorooctanoic acid	**3.8**	**J I !**	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*109*		*17 - 200*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
M2-8:2 FTS	*109*		*33 - 200*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C2 PFTeDA	*110*		*10 - 179*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C3 PFBS	*105*		*16 - 200*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C4 PFBA	*113*		*42 - 165*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C4 PFHpA	*113*		*31 - 182*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C5 PFPeA	*104*		*38 - 187*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C8 PFOA	*112*		*48 - 162*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C8 PFOS	*115*		*51 - 159*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
d5-NEtFOSAA	*103*		*29 - 195*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C3 PFHxS	*109*		*28 - 188*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C5 PFHxA	*115*		*24 - 179*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C6 PFDA	*107*		*49 - 163*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C7 PFUnA	*104*		*34 - 174*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C8 FOSA	*87*		*10 - 168*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C2-PFDoDA	*113*		*17 - 176*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C9 PFNA	*119*		*51 - 167*	*10/20/22 14:01*	*11/01/22 20:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*26 - 150*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C2 PFUnA	*88*		*11 - 187*	*10/20/22 14:01*	*11/01/22 20:30*	*1*
13C4 PFOA	*105*		*45 - 147*	*10/20/22 14:01*	*11/01/22 20:30*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**2.1**	**!**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 22:26	1

Client Sample ID: MW-24S

Lab Sample ID: 410-101186-7

Date Collected: 10/05/22 09:55
Date Received: 10/07/22 10:10

Matrix: Water

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**14**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**2.8**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**17**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.5	1.8	ng/L			11/03/22 06:25	1
PFPA	ND		1.8	0.45	ng/L			11/03/22 06:25	1
PFHxA	ND		1.8	0.81	ng/L			11/03/22 06:25	1
PFHpA	ND		1.8	0.45	ng/L			11/03/22 06:25	1
PFOA	**1.0**	**J**	1.8	0.45	ng/L			11/03/22 06:25	1
PFNA	ND		1.8	0.45	ng/L			11/03/22 06:25	1
Total PFCA	**1.0**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	**14**	**I !**	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	**3.8**	**J I !**	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	**18**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: MW-24D

Lab Sample ID: 410-101186-8

Date Collected: 10/05/22 11:50
Date Received: 10/07/22 10:10

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
6:2 Fluorotelomer sulfonic acid	ND		4.6	3.9	ng/L		10/10/22 18:35	10/21/22 04:14	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.93	ng/L		10/10/22 18:35	10/21/22 04:14	1
NEtFOSAA	ND		2.8	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
NMeFOSAA	ND		1.9	0.56	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorobutanesulfonic acid	**0.62**	**J**	1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorobutanoic acid	ND		4.6	1.9	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorodecanesulfonic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorodecanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorododecanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluoroheptanesulfonic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluoroheptanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorohexanesulfonic acid	**1.1**	**J**	1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorohexanoic acid	**1.2**	**J**	1.9	0.84	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorononanesulfonic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorononanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1

Client Sample ID: MW-24D

Date Collected: 10/05/22 11:50
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-8

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.9	0.65	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorooctanesulfonic acid	ND		1.9	0.93	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorooctanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluoropentanesulfonic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluoropentanoic acid	**0.66**	**J**	1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorotetradecanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluorotridecanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1
Perfluoroundecanoic acid	ND		1.9	0.46	ng/L		10/10/22 18:35	10/21/22 04:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*137*		*10 - 200*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
M2-6:2 FTS	*105*		*17 - 200*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
M2-8:2 FTS	*103*		*33 - 200*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C2 PFTeDA	*89*		*10 - 179*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C3 PFBS	*103*		*16 - 200*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C4 PFBA	*93*		*42 - 165*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C4 PFHpA	*105*		*31 - 182*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C5 PFPeA	*108*		*38 - 187*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C8 PFOA	*101*		*48 - 162*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C8 PFOS	*104*		*51 - 159*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
d3-NMeFOSAA	*106*		*31 - 174*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
d5-NEtFOSAA	*109*		*29 - 195*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C3 PFHxS	*105*		*28 - 188*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C5 PFHxA	*96*		*24 - 179*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C6 PFDA	*99*		*49 - 163*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C7 PFUnA	*98*		*34 - 174*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C8 FOSA	*77*		*10 - 168*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C2-PFDoDA	*80*		*17 - 176*	*10/10/22 18:35*	*10/21/22 04:14*	*1*
13C9 PFNA	*103*		*51 - 167*	*10/10/22 18:35*	*10/21/22 04:14*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 20:41	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 20:41	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 20:41	1

Client Sample ID: MW-24D

Date Collected: 10/05/22 11:50
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-8

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*131*		*17 - 200*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
M2-8:2 FTS	*127*		*33 - 200*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C2 PFTeDA	*125*		*10 - 179*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C3 PFBS	*117*		*16 - 200*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C4 PFBA	*121*		*42 - 165*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C4 PFHpA	*125*		*31 - 182*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C5 PFPeA	*119*		*38 - 187*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C8 PFOA	*126*		*48 - 162*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C8 PFOS	*132*		*51 - 159*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
d5-NEtFOSAA	*112*		*29 - 195*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C3 PFHxS	*121*		*28 - 188*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C5 PFHxA	*126*		*24 - 179*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C6 PFDA	*117*		*49 - 163*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C7 PFUnA	*115*		*34 - 174*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C8 FOSA	*100*		*10 - 168*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C2-PFDoDA	*125*		*17 - 176*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C9 PFNA	*133*		*51 - 167*	*10/20/22 14:01*	*11/01/22 20:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*122*		*26 - 150*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C2 PFUnA	*98*		*11 - 187*	*10/20/22 14:01*	*11/01/22 20:41*	*1*
13C4 PFOA	*116*		*45 - 147*	*10/20/22 14:01*	*11/01/22 20:41*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**10**	**!**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 23:01	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**0.00**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.6	1.9	ng/L			11/03/22 06:25	1
PFPA	**0.66**	**J**	1.9	0.46	ng/L			11/03/22 06:25	1
PFHxA	**1.2**	**J**	1.9	0.84	ng/L			11/03/22 06:25	1

Client Sample ID: MW-24D

Lab Sample ID: 410-101186-8

Date Collected: 10/05/22 11:50
Date Received: 10/07/22 10:10

Matrix: Water

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFHpA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
PFOA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
PFNA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
Total PFCA	**1.9**	**J !**	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: MW-1

Lab Sample ID: 410-101186-9

Date Collected: 10/05/22 17:35
Date Received: 10/07/22 10:10

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	3.7	ng/L		10/18/22 15:18	10/26/22 07:08	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		10/18/22 15:18	10/26/22 07:08	1
NEtFOSAA	ND		2.6	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
NMeFOSAA	ND		1.7	0.52	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorobutanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorobutanoic acid	ND		4.3	1.7	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorodecanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluoroheptanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluoroheptanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorohexanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorohexanoic acid	ND		1.7	0.78	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorononanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorononanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorooctanesulfonamide	ND		1.7	0.61	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorooctanesulfonic acid	ND		1.7	0.87	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorooctanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluoropentanesulfonic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluoropentanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		10/18/22 15:18	10/26/22 07:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*119*		*10 - 200*	*10/18/22 15:18*	*10/26/22 07:08*	*1*
M2-6:2 FTS	*103*		*17 - 200*	*10/18/22 15:18*	*10/26/22 07:08*	*1*
M2-8:2 FTS	*104*		*33 - 200*	*10/18/22 15:18*	*10/26/22 07:08*	*1*
13C2 PFTeDA	*112*		*10 - 179*	*10/18/22 15:18*	*10/26/22 07:08*	*1*

Client Sample ID: MW-1

Date Collected: 10/05/22 17:35
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-9

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	114		16 - 200	10/18/22 15:18	10/26/22 07:08	1
13C4 PFBA	114		42 - 165	10/18/22 15:18	10/26/22 07:08	1
13C4 PFHpA	112		31 - 182	10/18/22 15:18	10/26/22 07:08	1
13C5 PFPeA	119		38 - 187	10/18/22 15:18	10/26/22 07:08	1
13C8 PFOA	112		48 - 162	10/18/22 15:18	10/26/22 07:08	1
13C8 PFOS	126		51 - 159	10/18/22 15:18	10/26/22 07:08	1
d3-NMeFOSAA	127		31 - 174	10/18/22 15:18	10/26/22 07:08	1
d5-NEtFOSAA	129	^c cn	29 - 195	10/18/22 15:18	10/26/22 07:08	1
13C3 PFHxS	109		28 - 188	10/18/22 15:18	10/26/22 07:08	1
13C5 PFHxA	106		24 - 179	10/18/22 15:18	10/26/22 07:08	1
13C6 PFDA	108		49 - 163	10/18/22 15:18	10/26/22 07:08	1
13C7 PFUnA	114		34 - 174	10/18/22 15:18	10/26/22 07:08	1
13C8 FOSA	110		10 - 168	10/18/22 15:18	10/26/22 07:08	1
13C2-PFDoDA	109		17 - 176	10/18/22 15:18	10/26/22 07:08	1
13C9 PFNA	134		51 - 167	10/18/22 15:18	10/26/22 07:08	1

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 20:52	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 20:52	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorooctanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 20:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	119		17 - 200	10/20/22 14:01	11/01/22 20:52	1
M2-8:2 FTS	125		33 - 200	10/20/22 14:01	11/01/22 20:52	1
13C2 PFTeDA	120		10 - 179	10/20/22 14:01	11/01/22 20:52	1
13C3 PFBS	121		16 - 200	10/20/22 14:01	11/01/22 20:52	1
13C4 PFBA	117		42 - 165	10/20/22 14:01	11/01/22 20:52	1
13C4 PFHpA	114		31 - 182	10/20/22 14:01	11/01/22 20:52	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-1

Date Collected: 10/05/22 17:35
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-9

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*115*		*38 - 187*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C8 PFOA	*114*		*48 - 162*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C8 PFOS	*122*		*51 - 159*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
d5-NEtFOSAA	*109*		*29 - 195*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C3 PFHxS	*115*		*28 - 188*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C5 PFHxA	*117*		*24 - 179*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C6 PFDA	*113*		*49 - 163*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C7 PFUnA	*117*		*34 - 174*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C8 FOSA	*93*		*10 - 168*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C2-PFDoDA	*120*		*17 - 176*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C9 PFNA	*129*		*51 - 167*	*10/20/22 14:01*	*11/01/22 20:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*26 - 150*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C2 PFUnA	*96*		*11 - 187*	*10/20/22 14:01*	*11/01/22 20:52*	*1*
13C4 PFOA	*115*		*45 - 147*	*10/20/22 14:01*	*11/01/22 20:52*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**13**	**!**	2.0	1.0	ug/L		11/03/22 13:46	11/03/22 23:36	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFPA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFOA	**0.00**	**!**			ng/L			11/03/22 06:29	1
PFNA	**0.00**	**!**			ng/L			11/03/22 06:29	1
Total PFCA	**0.00**	**!**			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.3	1.7	ng/L			11/03/22 06:25	1
PFPA	ND		1.7	0.43	ng/L			11/03/22 06:25	1
PFHxA	ND		1.7	0.78	ng/L			11/03/22 06:25	1
PFHpA	ND		1.7	0.43	ng/L			11/03/22 06:25	1
PFOA	ND		1.7	0.43	ng/L			11/03/22 06:25	1
PFNA	ND		1.7	0.43	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-1 DUP

Date Collected: 10/05/22 17:40
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-10

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	3.7	ng/L		10/18/22 15:18	10/26/22 07:19	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		10/18/22 15:18	10/26/22 07:19	1
NEtFOSAA	ND		2.6	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
NMeFOSAA	ND		1.8	0.53	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorobutanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorobutanoic acid	ND		4.4	1.8	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorodecanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluoroheptanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluoroheptanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorohexanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorohexanoic acid	ND		1.8	0.79	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorononanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorononanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorooctanesulfonamide	ND		1.8	0.61	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorooctanesulfonic acid	ND		1.8	0.88	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorooctanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluoropentanesulfonic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluoropentanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		10/18/22 15:18	10/26/22 07:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*129*		*10 - 200*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
M2-6:2 FTS	*109*		*17 - 200*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
M2-8:2 FTS	*110*		*33 - 200*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C2 PFTeDA	*118*		*10 - 179*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C3 PFBS	*122*		*16 - 200*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C4 PFBA	*124*		*42 - 165*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C4 PFHpA	*109*		*31 - 182*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C5 PFPeA	*128*		*38 - 187*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C8 PFOA	*113*		*48 - 162*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C8 PFOS	*126*		*51 - 159*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
d3-NMeFOSAA	*135*		*31 - 174*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
d5-NEtFOSAA	*142*	*^c cn*	*29 - 195*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C3 PFHxS	*103*		*28 - 188*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C5 PFHxA	*106*		*24 - 179*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C6 PFDA	*128*		*49 - 163*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C7 PFUnA	*123*		*34 - 174*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C8 FOSA	*112*		*10 - 168*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C2-PFDoDA	*121*		*17 - 176*	*10/18/22 15:18*	*10/26/22 07:19*	*1*
13C9 PFNA	*137*		*51 - 167*	*10/18/22 15:18*	*10/26/22 07:19*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 21:14	1

Client Sample ID: MW-1 DUP

Lab Sample ID: 410-101186-10

Date Collected: 10/05/22 17:40

Matrix: Water

Date Received: 10/07/22 10:10

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 21:14	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorooctanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*110*		*17 - 200*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
M2-8:2 FTS	*103*		*33 - 200*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C2 PFTeDA	*113*		*10 - 179*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C3 PFBS	*114*		*16 - 200*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C4 PFBA	*115*		*42 - 165*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C4 PFHpA	*114*		*31 - 182*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C5 PFPeA	*114*		*38 - 187*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C8 PFOA	*113*		*48 - 162*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C8 PFOS	*122*		*51 - 159*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
d5-NEtFOSAA	*105*		*29 - 195*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C3 PFHxS	*110*		*28 - 188*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C5 PFHxA	*116*		*24 - 179*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C6 PFDA	*111*		*49 - 163*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C7 PFUnA	*108*		*34 - 174*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C8 FOSA	*92*		*10 - 168*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C2-PFDoDA	*126*		*17 - 176*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C9 PFNA	*123*		*51 - 167*	*10/20/22 14:01*	*11/01/22 21:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*26 - 150*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C2 PFUnA	*95*		*11 - 187*	*10/20/22 14:01*	*11/01/22 21:14*	*1*
13C4 PFOA	*114*		*45 - 147*	*10/20/22 14:01*	*11/01/22 21:14*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**2.9**	**!**	2.0	1.0	ug/L		11/03/22 13:46	11/04/22 00:12	1

Client Sample ID: MW-1 DUP

Lab Sample ID: 410-101186-10

Date Collected: 10/05/22 17:40

Matrix: Water

Date Received: 10/07/22 10:10

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	0.00	!			ng/L			11/03/22 06:29	1
PFPA	0.00	!			ng/L			11/03/22 06:29	1
PFHxA	0.00	!			ng/L			11/03/22 06:29	1
PFHpA	0.00	!			ng/L			11/03/22 06:29	1
PFOA	0.00	!			ng/L			11/03/22 06:29	1
PFNA	0.00	!			ng/L			11/03/22 06:29	1
Total PFCA	0.00	!			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.4	1.8	ng/L			11/03/22 06:25	1
PFPA	ND		1.8	0.44	ng/L			11/03/22 06:25	1
PFHxA	ND		1.8	0.79	ng/L			11/03/22 06:25	1
PFHpA	ND		1.8	0.44	ng/L			11/03/22 06:25	1
PFOA	ND		1.8	0.44	ng/L			11/03/22 06:25	1
PFNA	ND		1.8	0.44	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Client Sample ID: RB-1

Lab Sample ID: 410-101186-11

Date Collected: 10/05/22 14:10

Matrix: Water

Date Received: 10/07/22 10:10

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
6:2 Fluorotelomer sulfonic acid	ND		4.6	3.9	ng/L		10/18/22 15:18	10/26/22 08:03	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.93	ng/L		10/18/22 15:18	10/26/22 08:03	1
NEtFOSAA	ND		2.8	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
NMeFOSAA	ND		1.9	0.56	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorobutanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorobutanoic acid	ND		4.6	1.9	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorodecanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorodecanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorododecanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluoroheptanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluoroheptanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorohexanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorohexanoic acid	ND		1.9	0.84	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorononanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorononanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1

Client Sample ID: RB-1

Date Collected: 10/05/22 14:10
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-11

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.9	0.65	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorooctanesulfonic acid	ND		1.9	0.93	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorooctanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluoropentanesulfonic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluoropentanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorotetradecanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluorotridecanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1
Perfluoroundecanoic acid	ND		1.9	0.46	ng/L		10/18/22 15:18	10/26/22 08:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*129*		*10 - 200*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
M2-6:2 FTS	*129*		*17 - 200*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
M2-8:2 FTS	*124*		*33 - 200*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C2 PFTeDA	*124*		*10 - 179*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C3 PFBS	*130*		*16 - 200*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C4 PFBA	*130*		*42 - 165*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C4 PFHpA	*128*		*31 - 182*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C5 PFPeA	*130*		*38 - 187*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C8 PFOA	*130*		*48 - 162*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C8 PFOS	*141*		*51 - 159*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
d3-NMeFOSAA	*140*		*31 - 174*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
d5-NEtFOSAA	*172*	*^c cn*	*29 - 195*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C3 PFHxS	*123*		*28 - 188*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C5 PFHxA	*125*		*24 - 179*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C6 PFDA	*126*		*49 - 163*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C7 PFUnA	*137*		*34 - 174*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C8 FOSA	*112*		*10 - 168*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C2-PFDoDA	*135*		*17 - 176*	*10/18/22 15:18*	*10/26/22 08:03*	*1*
13C9 PFNA	*139*		*51 - 167*	*10/18/22 15:18*	*10/26/22 08:03*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		10/20/22 14:01	11/01/22 21:26	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		10/20/22 14:01	11/01/22 21:26	1
NEtFOSAA	ND	!	15	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
NMeFOSAA	ND	!	10	3.0	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorohexanoic acid	ND	!	10	4.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		10/20/22 14:01	11/01/22 21:26	1

Client Sample ID: RB-1

Date Collected: 10/05/22 14:10
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101186-11

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		10/20/22 14:01	11/01/22 21:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*134*		*17 - 200*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
M2-8:2 FTS	*117*		*33 - 200*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C2 PFTeDA	*126*		*10 - 179*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C3 PFBS	*123*		*16 - 200*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C4 PFBA	*127*		*42 - 165*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C4 PFHpA	*129*		*31 - 182*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C5 PFPeA	*123*		*38 - 187*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C8 PFOA	*122*		*48 - 162*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C8 PFOS	*134*		*51 - 159*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
d5-NEtFOSAA	*111*		*29 - 195*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C3 PFHxS	*119*		*28 - 188*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C5 PFHxA	*130*		*24 - 179*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C6 PFDA	*121*		*49 - 163*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C7 PFUnA	*117*		*34 - 174*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C8 FOSA	*99*		*10 - 168*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C2-PFDoDA	*124*		*17 - 176*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C9 PFNA	*137*		*51 - 167*	*10/20/22 14:01*	*11/01/22 21:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*26 - 150*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C2 PFUnA	*101*		*11 - 187*	*10/20/22 14:01*	*11/01/22 21:26*	*1*
13C4 PFOA	*131*		*45 - 147*	*10/20/22 14:01*	*11/01/22 21:26*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND	!	2.0	1.0	ug/L		11/03/22 13:46	11/04/22 00:47	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	!			ng/L			11/03/22 06:29	1
PFPA	**0.00**	!			ng/L			11/03/22 06:29	1
PFHxA	**0.00**	!			ng/L			11/03/22 06:29	1
PFHpA	**0.00**	!			ng/L			11/03/22 06:29	1
PFOA	**0.00**	!			ng/L			11/03/22 06:29	1
PFNA	**0.00**	!			ng/L			11/03/22 06:29	1
Total PFCA	**0.00**	!			ng/L			11/03/22 06:29	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.6	1.9	ng/L			11/03/22 06:25	1
PFPA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
PFHxA	ND		1.9	0.84	ng/L			11/03/22 06:25	1
PFHpA	ND		1.9	0.46	ng/L			11/03/22 06:25	1

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: RB-1

Lab Sample ID: 410-101186-11

Date Collected: 10/05/22 14:10

Matrix: Water

Date Received: 10/07/22 10:10

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFOA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
PFNA	ND		1.9	0.46	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			11/03/22 06:25	1
PFPA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFHxA	ND	!	10	4.5	ng/L			11/03/22 06:25	1
PFHpA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFOA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
PFNA	ND	!	10	2.5	ng/L			11/03/22 06:25	1
Total PFCA	ND	!	500	0.50	ng/L			11/03/22 06:25	1

Surrogate Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Method: 537 TOP - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Post-Treatment**

		Percent Surrogate Recovery (Acceptance Limits)							
		PFHxA	PFUnA	PFOA					
Lab Sample ID	Client Sample ID	(26-150)	(11-187)	(45-147)					
410-101186-1	OB-6-100	108	90	118					
410-101186-2	OB-6-50	104	90	109					
410-101186-3	OB-7-100	119	99	125					
410-101186-4	OB-7-50	114	97	120					
410-101186-5	MW-15S	113	100	121					
410-101186-6	MW-15D	125	103	128					
410-101186-7	MW-24S	108	88	105					
410-101186-8	MW-24D	122	98	116					
410-101186-9	MW-1	107	96	115					
410-101186-10	MW-1 DUP	113	95	114					
410-101186-11	RB-1	123	101	131					
LCS 410-308772/3-A	Lab Control Sample	113	91	110					
LCSD 410-308772/4-A	Lab Control Sample Dup	109	88	114					
MB 410-308772/2-A	Method Blank	109	80	106					

Surrogate Legend

PFHxA = 13C2 PFHxA
PFUnA = 13C2 PFUnA
PFOA = 13C4 PFOA

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Method: 537 IDA - EPA 537 Isotope Dilution

Matrix: Water **Prep Type: Pre-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	PFTDA	C3PFBS	PFBA	C4PFHA	PFPeA
Lab Sample ID	Client Sample ID	(10-200)	(17-200)	(33-200)	(10-179)	(16-200)	(42-165)	(31-182)	(38-187)
410-101186-1	OB-6-100	198	166	169	43	100	103	104	120
410-101186-2	OB-6-50	197	142	136	43	88	95	100	88
410-101186-3	OB-7-100	272 *5+ cn	187	145	67	115	99	98	109
410-101186-4	OB-7-50	201 *5+ cn	161	142	24	92	94	94	99
410-101186-5	MW-15S	150	114	103	75	101	89	88	101
410-101186-6	MW-15D	147	106	109	87	111	95	97	101
410-101186-7	MW-24S	184	131	126	85	116	99	105	121
410-101186-8	MW-24D	137	105	103	89	103	93	105	108
410-101186-9	MW-1	119	103	104	112	114	114	112	119
410-101186-10	MW-1 DUP	129	109	110	118	122	124	109	128
410-101186-11	RB-1	129	129	124	124	130	130	128	130
LCS 410-305007/2-A	Lab Control Sample	124	113	107	90	96	102	103	111
LCS 410-307877/2-A	Lab Control Sample	106	94	105	105	105	109	102	115
LCSD 410-307877/3-A	Lab Control Sample Dup	129	121	112	119	123	126	124	128
MB 410-305007/1-A	Method Blank	107	108	120	90	96	100	108	99
MB 410-307877/1-A	Method Blank	131	128	125	119	127	135	120	142

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C8PFOA	C8PFOS	d3NMFOS	d5NEFOS	C3PFHS	13C5PHA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(48-162)	(51-159)	(31-174)	(29-195)	(28-188)	(24-179)	(49-163)	(34-174)
410-101186-1	OB-6-100	100	104	114	99	97	97	102	85
410-101186-2	OB-6-50	95	97	115	105	89	91	93	85
410-101186-3	OB-7-100	101	107	125	128	98	93	103	100
410-101186-4	OB-7-50	89	86	110	89	87	89	86	71
410-101186-5	MW-15S	89	92	98	98	96	86	86	82
410-101186-6	MW-15D	96	112	97	102	101	92	94	93
410-101186-7	MW-24S	98	100	117	109	109	99	97	96
410-101186-8	MW-24D	101	104	106	109	105	96	99	98
410-101186-9	MW-1	112	126	127	129 ^c cn	109	106	108	114
410-101186-10	MW-1 DUP	113	126	135	142 ^c cn	103	106	128	123
410-101186-11	RB-1	130	141	140	172 ^c cn	123	125	126	137
LCS 410-305007/2-A	Lab Control Sample	102	110	115	106	97	104	103	98
LCS 410-307877/2-A	Lab Control Sample	106	118	134	126	103	108	110	117
LCSD 410-307877/3-A	Lab Control Sample Dup	122	137	150	141	116	118	133	134
MB 410-305007/1-A	Method Blank	106	112	120	116	105	101	102	98
MB 410-307877/1-A	Method Blank	124	137	142	147	108	121	140	135

		Percent Isotope Dilution Recovery (Acceptance Limits)		
		PFOSA	PFDoDA	C9PFNA
Lab Sample ID	Client Sample ID	(10-168)	(17-176)	(51-167)
410-101186-1	OB-6-100	73	40	110
410-101186-2	OB-6-50	69	51	101
410-101186-3	OB-7-100	83	69	101
410-101186-4	OB-7-50	57	33	87
410-101186-5	MW-15S	72	71	90
410-101186-6	MW-15D	65	84	108
410-101186-7	MW-24S	83	78	98
410-101186-8	MW-24D	77	80	103
410-101186-9	MW-1	110	109	134

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Job ID: 410-101186-1
Project/Site: Saegertown PFAS Site

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Matrix: Water **Prep Type: Pre-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (10-168)	PFDoDA (17-176)	C9PFNA (51-167)					
410-101186-10	MW-1 DUP	112	121	137					
410-101186-11	RB-1	112	135	139					
LCS 410-305007/2-A	Lab Control Sample	89	87	105					
LCS 410-307877/2-A	Lab Control Sample	90	109	131					
LCSD 410-307877/3-A	Lab Control Sample Dup	102	125	151					
MB 410-305007/1-A	Method Blank	91	92	109					
MB 410-307877/1-A	Method Blank	112	129	147					

Surrogate Legend

M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
C3PFHS = 13C3 PFHxS
13C5PHA = 13C5 PFHxA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFOSA = 13C8 FOSA
PFDoDA = 13C2-PFDoDA
C9PFNA = 13C9 PFNA

Method: 537 TOP - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Post-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (17-200)	M282FTS (33-200)	PFTDA (10-179)	C3PFBS (16-200)	PFBA (42-165)	C4PFHA (31-182)	PFPeA (38-187)	C8PFOA (48-162)
410-101186-1	OB-6-100	118	98	103	108	108	117	109	110
410-101186-2	OB-6-50	119	111	118	115	116	115	109	114
410-101186-3	OB-7-100	129	123	122	123	122	120	120	126
410-101186-4	OB-7-50	115	95	115	115	119	116	113	117
410-101186-5	MW-15S	116	111	122	116	120	108	114	114
410-101186-6	MW-15D	134	106	127	120	125	128	120	129
410-101186-7	MW-24S	109	109	110	105	113	113	104	112
410-101186-8	MW-24D	131	127	125	117	121	125	119	126
410-101186-9	MW-1	119	125	120	121	117	114	115	114
410-101186-10	MW-1 DUP	110	103	113	114	115	114	114	113
410-101186-11	RB-1	134	117	126	123	127	129	123	122
LCS 410-308772/3-A	Lab Control Sample	121	103	114	111	112	118	112	119
LCSD 410-308772/4-A	Lab Control Sample Dup	112	107	119	113	111	110	116	113
MB 410-308772/2-A	Method Blank	115	118	113	117	121	115	116	116

Isotope Dilution Summary

Client: Michael Baker International, Inc. Job ID: 410-101186-1
Project/Site: Saegertown PFAS Site

Method: 537 TOP - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Post-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C8PFOS	d5NEFOS	C3PFHS	13C5PHA	C6PFDA	13C7PUA	PFOSA	PFDoDA
Lab Sample ID	Client Sample ID	(51-159)	(29-195)	(28-188)	(24-179)	(49-163)	(34-174)	(10-168)	(17-176)
410-101186-1	OB-6-100	110	95	115	111	104	94	81	111
410-101186-2	OB-6-50	121	103	111	119	113	103	93	115
410-101186-3	OB-7-100	121	114	117	125	120	111	100	124
410-101186-4	OB-7-50	122	109	107	117	114	106	91	113
410-101186-5	MW-15S	127	106	106	113	116	114	94	122
410-101186-6	MW-15D	132	116	119	129	125	126	100	138
410-101186-7	MW-24S	115	103	109	115	107	104	87	113
410-101186-8	MW-24D	132	112	121	126	117	115	100	125
410-101186-9	MW-1	122	109	115	117	113	117	93	120
410-101186-10	MW-1 DUP	122	105	110	116	111	108	92	126
410-101186-11	RB-1	134	111	119	130	121	117	99	124
LCS 410-308772/3-A	Lab Control Sample	123	103	112	122	109	106	92	118
LCSD 410-308772/4-A	Lab Control Sample Dup	114	104	99	114	114	113	94	123
MB 410-308772/2-A	Method Blank	125	101	106	113	114	111	94	126

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C9PFNA							
Lab Sample ID	Client Sample ID	(51-167)							
410-101186-1	OB-6-100	113							
410-101186-2	OB-6-50	126							
410-101186-3	OB-7-100	129							
410-101186-4	OB-7-50	127							
410-101186-5	MW-15S	137							
410-101186-6	MW-15D	140							
410-101186-7	MW-24S	119							
410-101186-8	MW-24D	133							
410-101186-9	MW-1	129							
410-101186-10	MW-1 DUP	123							
410-101186-11	RB-1	137							
LCS 410-308772/3-A	Lab Control Sample	124							
LCSD 410-308772/4-A	Lab Control Sample Dup	119							
MB 410-308772/2-A	Method Blank	129							

Surrogate Legend

M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
d5NEFOS = d5-NEtFOSAA
C3PFHS = 13C3 PFHxS
13C5PHA = 13C5 PFHxA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFOSA = 13C8 FOSA
PFDoDA = 13C2-PFDoDA
C9PFNA = 13C9 PFNA

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-305007/1-A
Matrix: Water
Analysis Batch: 308596

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 305007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	4.2	ng/L		10/10/22 18:35	10/21/22 00:10	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
NEtFOSAA	ND		3.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
NMeFOSAA	ND		2.0	0.60	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorohexanoic acid	ND		2.0	0.90	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanesulfonamide	ND		2.0	0.70	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanesulfonic acid	ND		2.0	1.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*107*		*10 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
M2-6:2 FTS	*108*		*17 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
M2-8:2 FTS	*120*		*33 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C2 PFTeDA	*90*		*10 - 179*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C3 PFBS	*96*		*16 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C4 PFBA	*100*		*42 - 165*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C4 PFHpA	*108*		*31 - 182*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C5 PFPeA	*99*		*38 - 187*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 PFOA	*106*		*48 - 162*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 PFOS	*112*		*51 - 159*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
d3-NMeFOSAA	*120*		*31 - 174*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
d5-NEtFOSAA	*116*		*29 - 195*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C3 PFHxS	*105*		*28 - 188*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C5 PFHxA	*101*		*24 - 179*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C6 PFDA	*102*		*49 - 163*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C7 PFUnA	*98*		*34 - 174*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 FOSA	*91*		*10 - 168*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C2-PFDoDA	*92*		*17 - 176*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C9 PFNA	*109*		*51 - 167*	*10/10/22 18:35*	*10/21/22 00:10*	*1*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-305007/2-A
Matrix: Water
Analysis Batch: 308596

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 305007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 Fluorotelomer sulfonic acid	23.9	18.3		ng/L		77	55 - 139
6:2 Fluorotelomer sulfonic acid	24.3	20.9		ng/L		86	28 - 173
8:2 Fluorotelomer sulfonic acid	24.5	21.5		ng/L		88	55 - 138
NEtFOSAA	25.6	24.6		ng/L		96	55 - 134
NMeFOSAA	25.6	23.1		ng/L		90	59 - 140
Perfluorobutanesulfonic acid	22.7	21.5		ng/L		95	53 - 138
Perfluorobutanoic acid	25.6	23.0		ng/L		90	59 - 136
Perfluorodecanesulfonic acid	24.7	20.1		ng/L		81	55 - 137
Perfluorodecanoic acid	25.6	24.3		ng/L		95	56 - 138
Perfluorododecanoic acid	25.6	24.0		ng/L		94	59 - 143
Perfluoroheptanesulfonic acid	24.4	22.6		ng/L		93	56 - 140
Perfluoroheptanoic acid	25.6	23.4		ng/L		91	59 - 145
Perfluorohexanesulfonic acid	23.3	21.1		ng/L		90	58 - 134
Perfluorohexanoic acid	25.6	22.2		ng/L		87	58 - 139
Perfluorononanesulfonic acid	24.6	20.3		ng/L		82	59 - 136
Perfluorononanoic acid	25.6	23.0		ng/L		90	61 - 139
Perfluorooctanesulfonamide	25.6	25.8		ng/L		101	43 - 167
Perfluorooctanesulfonic acid	23.7	20.2		ng/L		85	45 - 150
Perfluorooctanoic acid	25.6	23.0		ng/L		90	51 - 145
Perfluoropentanesulfonic acid	24.0	24.1		ng/L		100	55 - 140
Perfluoropentanoic acid	25.6	21.9		ng/L		86	57 - 141
Perfluorotetradecanoic acid	25.6	23.8		ng/L		93	62 - 139
Perfluorotridecanoic acid	25.6	27.2		ng/L		106	58 - 146
Perfluoroundecanoic acid	25.6	25.1		ng/L		98	60 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*124*		*10 - 200*
M2-6:2 FTS	*113*		*17 - 200*
M2-8:2 FTS	*107*		*33 - 200*
13C2 PFTeDA	*90*		*10 - 179*
13C3 PFBS	*96*		*16 - 200*
13C4 PFBA	*102*		*42 - 165*
13C4 PFHpA	*103*		*31 - 182*
13C5 PFPeA	*111*		*38 - 187*
13C8 PFOA	*102*		*48 - 162*
13C8 PFOS	*110*		*51 - 159*
d3-NMeFOSAA	*115*		*31 - 174*
d5-NEtFOSAA	*106*		*29 - 195*
13C3 PFHxS	*97*		*28 - 188*
13C5 PFHxA	*104*		*24 - 179*
13C6 PFDA	*103*		*49 - 163*
13C7 PFUnA	*98*		*34 - 174*
13C8 FOSA	*89*		*10 - 168*
13C2-PFDoDA	*87*		*17 - 176*
13C9 PFNA	*105*		*51 - 167*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-307877/1-A
Matrix: Water
Analysis Batch: 310345

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 307877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	4.2	ng/L		10/18/22 15:18	10/26/22 06:34	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		10/18/22 15:18	10/26/22 06:34	1
NEtFOSAA	ND		3.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
NMeFOSAA	ND		2.0	0.60	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorohexanoic acid	ND		2.0	0.90	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorooctanesulfonamide	ND		2.0	0.70	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorooctanesulfonic acid	ND		2.0	1.0	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		10/18/22 15:18	10/26/22 06:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*131*		*10 - 200*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
M2-6:2 FTS	*128*		*17 - 200*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
M2-8:2 FTS	*125*		*33 - 200*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C2 PFTeDA	*119*		*10 - 179*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C3 PFBS	*127*		*16 - 200*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C4 PFBA	*135*		*42 - 165*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C4 PFHpA	*120*		*31 - 182*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C5 PFPeA	*142*		*38 - 187*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C8 PFOA	*124*		*48 - 162*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C8 PFOS	*137*		*51 - 159*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
d3-NMeFOSAA	*142*		*31 - 174*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
d5-NEtFOSAA	*147*		*29 - 195*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C3 PFHxS	*108*		*28 - 188*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C5 PFHxA	*121*		*24 - 179*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C6 PFDA	*140*		*49 - 163*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C7 PFUnA	*135*		*34 - 174*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C8 FOSA	*112*		*10 - 168*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C2-PFDoDA	*129*		*17 - 176*	*10/18/22 15:18*	*10/26/22 06:34*	*1*
13C9 PFNA	*147*		*51 - 167*	*10/18/22 15:18*	*10/26/22 06:34*	*1*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-307877/2-A
Matrix: Water
Analysis Batch: 310345

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 307877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 Fluorotelomer sulfonic acid	23.9	22.2		ng/L		93	55 - 139
6:2 Fluorotelomer sulfonic acid	24.3	24.2		ng/L		100	28 - 173
8:2 Fluorotelomer sulfonic acid	24.5	23.2		ng/L		95	55 - 138
NEtFOSAA	25.6	25.3		ng/L		99	55 - 134
NMeFOSAA	25.6	21.6		ng/L		85	59 - 140
Perfluorobutanesulfonic acid	22.7	21.9		ng/L		97	53 - 138
Perfluorobutanoic acid	25.6	23.0		ng/L		90	59 - 136
Perfluorodecanesulfonic acid	24.7	20.4		ng/L		83	55 - 137
Perfluorodecanoic acid	25.6	23.5		ng/L		92	56 - 138
Perfluorododecanoic acid	25.6	20.5		ng/L		80	59 - 143
Perfluoroheptanesulfonic acid	24.4	21.9		ng/L		90	56 - 140
Perfluoroheptanoic acid	25.6	23.8		ng/L		93	59 - 145
Perfluorohexanesulfonic acid	23.3	18.9		ng/L		81	58 - 134
Perfluorohexanoic acid	25.6	21.7		ng/L		85	58 - 139
Perfluorononanesulfonic acid	24.6	20.4		ng/L		83	59 - 136
Perfluorononanoic acid	25.6	22.3		ng/L		87	61 - 139
Perfluorooctanesulfonamide	25.6	26.3		ng/L		103	43 - 167
Perfluorooctanesulfonic acid	23.7	22.6		ng/L		95	45 - 150
Perfluorooctanoic acid	25.6	23.1		ng/L		90	51 - 145
Perfluoropentanesulfonic acid	24.0	22.8		ng/L		95	55 - 140
Perfluoropentanoic acid	25.6	22.8		ng/L		89	57 - 141
Perfluorotetradecanoic acid	25.6	21.3		ng/L		83	62 - 139
Perfluorotridecanoic acid	25.6	22.4		ng/L		87	58 - 146
Perfluoroundecanoic acid	25.6	24.6		ng/L		96	60 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*106*		*10 - 200*
M2-6:2 FTS	*94*		*17 - 200*
M2-8:2 FTS	*105*		*33 - 200*
13C2 PFTeDA	*105*		*10 - 179*
13C3 PFBS	*105*		*16 - 200*
13C4 PFBA	*109*		*42 - 165*
13C4 PFHpA	*102*		*31 - 182*
13C5 PFPeA	*115*		*38 - 187*
13C8 PFOA	*106*		*48 - 162*
13C8 PFOS	*118*		*51 - 159*
d3-NMeFOSAA	*134*		*31 - 174*
d5-NEtFOSAA	*126*		*29 - 195*
13C3 PFHxS	*103*		*28 - 188*
13C5 PFHxA	*108*		*24 - 179*
13C6 PFDA	*110*		*49 - 163*
13C7 PFUnA	*117*		*34 - 174*
13C8 FOSA	*90*		*10 - 168*
13C2-PFDoDA	*109*		*17 - 176*
13C9 PFNA	*131*		*51 - 167*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCSD 410-307877/3-A
Matrix: Water
Analysis Batch: 310345

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 307877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4:2 Fluorotelomer sulfonic acid			23.9	19.7		ng/L		82	55 - 139	12	30
6:2 Fluorotelomer sulfonic acid			24.3	20.2		ng/L		83	28 - 173	18	30
8:2 Fluorotelomer sulfonic acid			24.5	22.8		ng/L		93	55 - 138	2	30
NEtFOSAA			25.6	23.4		ng/L		92	55 - 134	8	30
NMeFOSAA			25.6	20.8		ng/L		81	59 - 140	4	30
Perfluorobutanesulfonic acid			22.7	19.9		ng/L		88	53 - 138	10	30
Perfluorobutanoic acid			25.6	21.0		ng/L		82	59 - 136	9	30
Perfluorodecanesulfonic acid			24.7	18.5		ng/L		75	55 - 137	10	30
Perfluorodecanoic acid			25.6	22.4		ng/L		87	56 - 138	5	30
Perfluorododecanoic acid			25.6	19.4		ng/L		76	59 - 143	5	30
Perfluoroheptanesulfonic acid			24.4	19.8		ng/L		81	56 - 140	10	30
Perfluoroheptanoic acid			25.6	21.1		ng/L		83	59 - 145	12	30
Perfluorohexanesulfonic acid			23.3	18.8		ng/L		81	58 - 134	0	30
Perfluorohexanoic acid			25.6	22.7		ng/L		89	58 - 139	5	30
Perfluorononanesulfonic acid			24.6	18.7		ng/L		76	59 - 136	9	30
Perfluorononanoic acid			25.6	19.6		ng/L		76	61 - 139	13	30
Perfluorooctanesulfonamide			25.6	24.2		ng/L		95	43 - 167	8	30
Perfluorooctanesulfonic acid			23.7	19.3		ng/L		81	45 - 150	16	30
Perfluorooctanoic acid			25.6	21.6		ng/L		85	51 - 145	6	30
Perfluoropentanesulfonic acid			24.0	20.4		ng/L		85	55 - 140	11	30
Perfluoropentanoic acid			25.6	22.2		ng/L		87	57 - 141	2	30
Perfluorotetradecanoic acid			25.6	20.4		ng/L		80	62 - 139	4	30
Perfluorotridecanoic acid			25.6	19.4		ng/L		76	58 - 146	14	30
Perfluoroundecanoic acid			25.6	22.4		ng/L		87	60 - 141	10	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*129*		*10 - 200*
M2-6:2 FTS	*121*		*17 - 200*
M2-8:2 FTS	*112*		*33 - 200*
13C2 PFTeDA	*119*		*10 - 179*
13C3 PFBS	*123*		*16 - 200*
13C4 PFBA	*126*		*42 - 165*
13C4 PFHpA	*124*		*31 - 182*
13C5 PFPeA	*128*		*38 - 187*
13C8 PFOA	*122*		*48 - 162*
13C8 PFOS	*137*		*51 - 159*
d3-NMeFOSAA	*150*		*31 - 174*
d5-NEtFOSAA	*141*		*29 - 195*
13C3 PFHxS	*116*		*28 - 188*
13C5 PFHxA	*118*		*24 - 179*
13C6 PFDA	*133*		*49 - 163*
13C7 PFUnA	*134*		*34 - 174*
13C8 FOSA	*102*		*10 - 168*
13C2-PFDoDA	*125*		*17 - 176*
13C9 PFNA	*151*		*51 - 167*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: MB 410-308772/2-A
Matrix: Water
Analysis Batch: 312660

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 308772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
6:2 Fluorotelomer sulfonic acid	ND		25	21	ng/L		10/20/22 14:01	11/01/22 18:50	1
8:2 Fluorotelomer sulfonic acid	ND		15	5.0	ng/L		10/20/22 14:01	11/01/22 18:50	1
NEtFOSAA	ND		15	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
NMeFOSAA	ND		10	3.0	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorobutanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorobutanoic acid	ND		25	10	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorodecanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorodecanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorododecanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluoroheptanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluoroheptanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorohexanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorohexanoic acid	ND		10	4.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorononanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorononanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorooctanesulfonamide	ND		10	3.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorooctanesulfonic acid	ND		10	5.0	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorooctanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluoropentanesulfonic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluoropentanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorotetradecanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluorotridecanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1
Perfluoroundecanoic acid	ND		10	2.5	ng/L		10/20/22 14:01	11/01/22 18:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*115*		*17 - 200*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
M2-8:2 FTS	*118*		*33 - 200*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C2 PFTeDA	*113*		*10 - 179*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C3 PFBS	*117*		*16 - 200*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C4 PFBA	*121*		*42 - 165*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C4 PFHpA	*115*		*31 - 182*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C5 PFPeA	*116*		*38 - 187*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C8 PFOA	*116*		*48 - 162*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C8 PFOS	*125*		*51 - 159*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
d5-NEtFOSAA	*101*		*29 - 195*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C3 PFHxS	*106*		*28 - 188*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C5 PFHxA	*113*		*24 - 179*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C6 PFDA	*114*		*49 - 163*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C7 PFUnA	*111*		*34 - 174*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C8 FOSA	*94*		*10 - 168*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C2-PFDoDA	*126*		*17 - 176*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C9 PFNA	*129*		*51 - 167*	*10/20/22 14:01*	*11/01/22 18:50*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*26 - 150*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C2 PFUnA	*80*		*11 - 187*	*10/20/22 14:01*	*11/01/22 18:50*	*1*
13C4 PFOA	*106*		*45 - 147*	*10/20/22 14:01*	*11/01/22 18:50*	*1*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: LCS 410-308772/3-A
Matrix: Water
Analysis Batch: 312660

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 308772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 Fluorotelomer sulfonic acid	120	134	I	ng/L		112	55 - 139
6:2 Fluorotelomer sulfonic acid	121	120		ng/L		99	28 - 173
8:2 Fluorotelomer sulfonic acid	123	117	I	ng/L		96	55 - 138
NEtFOSAA	128	134		ng/L		104	55 - 134
NMeFOSAA	128	140	I	ng/L		109	59 - 140
Perfluorobutanesulfonic acid	113	113		ng/L		100	53 - 138
Perfluorobutanoic acid	128	120		ng/L		94	59 - 136
Perfluorodecanesulfonic acid	123	97.0	I	ng/L		79	55 - 137
Perfluorodecanoic acid	128	130	I	ng/L		101	56 - 138
Perfluorododecanoic acid	128	120	I	ng/L		94	59 - 143
Perfluoroheptanesulfonic acid	122	100		ng/L		82	56 - 140
Perfluoroheptanoic acid	128	130	I	ng/L		101	59 - 145
Perfluorohexanesulfonic acid	117	101		ng/L		87	58 - 134
Perfluorohexanoic acid	128	117	I	ng/L		91	58 - 139
Perfluorononanesulfonic acid	123	98.9		ng/L		80	59 - 136
Perfluorononanoic acid	128	129	I	ng/L		101	61 - 139
Perfluorooctanesulfonamide	128	121		ng/L		94	43 - 167
Perfluorooctanesulfonic acid	118	106		ng/L		89	45 - 150
Perfluorooctanoic acid	128	125	I	ng/L		98	51 - 145
Perfluoropentanesulfonic acid	120	101		ng/L		84	55 - 140
Perfluoropentanoic acid	128	116		ng/L		91	57 - 141
Perfluorotetradecanoic acid	128	130	I	ng/L		101	62 - 139
Perfluorotridecanoic acid	128	115	I	ng/L		90	58 - 146
Perfluoroundecanoic acid	128	136	I	ng/L		106	60 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-6:2 FTS	*121*		*17 - 200*
M2-8:2 FTS	*103*		*33 - 200*
13C2 PFTeDA	*114*		*10 - 179*
13C3 PFBS	*111*		*16 - 200*
13C4 PFBA	*112*		*42 - 165*
13C4 PFHpA	*118*		*31 - 182*
13C5 PFPeA	*112*		*38 - 187*
13C8 PFOA	*119*		*48 - 162*
13C8 PFOS	*123*		*51 - 159*
d5-NEtFOSAA	*103*		*29 - 195*
13C3 PFHxS	*112*		*28 - 188*
13C5 PFHxA	*122*		*24 - 179*
13C6 PFDA	*109*		*49 - 163*
13C7 PFUnA	*106*		*34 - 174*
13C8 FOSA	*92*		*10 - 168*
13C2-PFDoDA	*118*		*17 - 176*
13C9 PFNA	*124*		*51 - 167*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*113*		*26 - 150*
13C2 PFUnA	*91*		*11 - 187*
13C4 PFOA	*110*		*45 - 147*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: LCSD 410-308772/4-A
Matrix: Water
Analysis Batch: 312660

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 308772

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4:2 Fluorotelomer sulfonic acid			120	137	I	ng/L		114	55 - 139	2	30
6:2 Fluorotelomer sulfonic acid			121	120		ng/L		99	28 - 173	1	30
8:2 Fluorotelomer sulfonic acid			123	121	I	ng/L		99	55 - 138	4	30
NEtFOSAA			128	136		ng/L		106	55 - 134	2	30
NMeFOSAA			128	140	I	ng/L		110	59 - 140	0	30
Perfluorobutanesulfonic acid			113	104		ng/L		92	53 - 138	9	30
Perfluorobutanoic acid			128	122		ng/L		95	59 - 136	1	30
Perfluorodecanesulfonic acid			123	95.2	I	ng/L		77	55 - 137	2	30
Perfluorodecanoic acid			128	126	I	ng/L		99	56 - 138	3	30
Perfluorododecanoic acid			128	120	I	ng/L		93	59 - 143	0	30
Perfluoroheptanesulfonic acid			122	105		ng/L		86	56 - 140	5	30
Perfluoroheptanoic acid			128	124	I	ng/L		97	59 - 145	4	30
Perfluorohexanesulfonic acid			117	105		ng/L		90	58 - 134	3	30
Perfluorohexanoic acid			128	123	I	ng/L		96	58 - 139	5	30
Perfluorononanesulfonic acid			123	99.0		ng/L		81	59 - 136	0	30
Perfluorononanoic acid			128	128	I	ng/L		100	61 - 139	1	30
Perfluorooctanesulfonamide			128	127		ng/L		99	43 - 167	5	30
Perfluorooctanesulfonic acid			118	108		ng/L		91	45 - 150	2	30
Perfluorooctanoic acid			128	123	I	ng/L		96	51 - 145	2	30
Perfluoropentanesulfonic acid			120	103		ng/L		86	55 - 140	3	30
Perfluoropentanoic acid			128	118		ng/L		92	57 - 141	1	30
Perfluorotetradecanoic acid			128	125	I	ng/L		97	62 - 139	4	30
Perfluorotridecanoic acid			128	116	I	ng/L		91	58 - 146	0	30
Perfluoroundecanoic acid			128	122	I	ng/L		95	60 - 141	11	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-6:2 FTS	*112*		*17 - 200*
M2-8:2 FTS	*107*		*33 - 200*
13C2 PFTeDA	*119*		*10 - 179*
13C3 PFBS	*113*		*16 - 200*
13C4 PFBA	*111*		*42 - 165*
13C4 PFHpA	*110*		*31 - 182*
13C5 PFPeA	*116*		*38 - 187*
13C8 PFOA	*113*		*48 - 162*
13C8 PFOS	*114*		*51 - 159*
d5-NEtFOSAA	*104*		*29 - 195*
13C3 PFHxS	*99*		*28 - 188*
13C5 PFHxA	*114*		*24 - 179*
13C6 PFDA	*114*		*49 - 163*
13C7 PFUnA	*113*		*34 - 174*
13C8 FOSA	*94*		*10 - 168*
13C2-PFDoDA	*123*		*17 - 176*
13C9 PFNA	*119*		*51 - 167*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*109*		*26 - 150*
13C2 PFUnA	*88*		*11 - 187*
13C4 PFOA	*114*		*45 - 147*

Method: ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Lab Sample ID: MB 410-313625/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313625**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND		2.0	1.0	ug/L		11/03/22 13:46	11/03/22 14:09	1

Lab Sample ID: LCS 410-313625/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313625**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Adsorbable Organic Fluorine (AOF)	20.2	19.7		ug/L		97	50 - 150

Lab Sample ID: LCSD 410-313625/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313625**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Adsorbable Organic Fluorine (AOF)	20.2	20.1		ug/L		99	50 - 150	2	20

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

LCMS

Prep Batch: 305007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-2	OB-6-50	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-3	OB-7-100	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-4	OB-7-50	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-5	MW-15S	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-6	MW-15D	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-7	MW-24S	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-8	MW-24D	Pre-Treatment	Water	TOP Pre - Prep	
MB 410-305007/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 410-305007/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	

Prep Batch: 307877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-9	MW-1	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-10	MW-1 DUP	Pre-Treatment	Water	TOP Pre - Prep	
410-101186-11	RB-1	Pre-Treatment	Water	TOP Pre - Prep	
MB 410-307877/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 410-307877/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	
LCSD 410-307877/3-A	Lab Control Sample Dup	Pre-Treatment	Water	TOP Pre - Prep	

Analysis Batch: 308596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Pre-Treatment	Water	537 IDA	305007
410-101186-2	OB-6-50	Pre-Treatment	Water	537 IDA	305007
410-101186-3	OB-7-100	Pre-Treatment	Water	537 IDA	305007
410-101186-4	OB-7-50	Pre-Treatment	Water	537 IDA	305007
410-101186-5	MW-15S	Pre-Treatment	Water	537 IDA	305007
410-101186-6	MW-15D	Pre-Treatment	Water	537 IDA	305007
410-101186-7	MW-24S	Pre-Treatment	Water	537 IDA	305007
410-101186-8	MW-24D	Pre-Treatment	Water	537 IDA	305007
MB 410-305007/1-A	Method Blank	Pre-Treatment	Water	537 IDA	305007
LCS 410-305007/2-A	Lab Control Sample	Pre-Treatment	Water	537 IDA	305007

Prep Batch: 308772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Post-Treatment	Water	TOP Post Prep	
410-101186-2	OB-6-50	Post-Treatment	Water	TOP Post Prep	
410-101186-3	OB-7-100	Post-Treatment	Water	TOP Post Prep	
410-101186-4	OB-7-50	Post-Treatment	Water	TOP Post Prep	
410-101186-5	MW-15S	Post-Treatment	Water	TOP Post Prep	
410-101186-6	MW-15D	Post-Treatment	Water	TOP Post Prep	
410-101186-7	MW-24S	Post-Treatment	Water	TOP Post Prep	
410-101186-8	MW-24D	Post-Treatment	Water	TOP Post Prep	
410-101186-9	MW-1	Post-Treatment	Water	TOP Post Prep	
410-101186-10	MW-1 DUP	Post-Treatment	Water	TOP Post Prep	
410-101186-11	RB-1	Post-Treatment	Water	TOP Post Prep	
MB 410-308772/1-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
MB 410-308772/2-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
LCS 410-308772/3-A	Lab Control Sample	Post-Treatment	Water	TOP Post Prep	
LCSD 410-308772/4-A	Lab Control Sample Dup	Post-Treatment	Water	TOP Post Prep	

LCMS

Analysis Batch: 310345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-9	MW-1	Pre-Treatment	Water	537 IDA	307877
410-101186-10	MW-1 DUP	Pre-Treatment	Water	537 IDA	307877
410-101186-11	RB-1	Pre-Treatment	Water	537 IDA	307877
MB 410-307877/1-A	Method Blank	Pre-Treatment	Water	537 IDA	307877
LCS 410-307877/2-A	Lab Control Sample	Pre-Treatment	Water	537 IDA	307877
LCSD 410-307877/3-A	Lab Control Sample Dup	Pre-Treatment	Water	537 IDA	307877

Analysis Batch: 312660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Post-Treatment	Water	537 TOP	308772
410-101186-2	OB-6-50	Post-Treatment	Water	537 TOP	308772
410-101186-3	OB-7-100	Post-Treatment	Water	537 TOP	308772
410-101186-4	OB-7-50	Post-Treatment	Water	537 TOP	308772
410-101186-5	MW-15S	Post-Treatment	Water	537 TOP	308772
410-101186-6	MW-15D	Post-Treatment	Water	537 TOP	308772
410-101186-7	MW-24S	Post-Treatment	Water	537 TOP	308772
410-101186-8	MW-24D	Post-Treatment	Water	537 TOP	308772
410-101186-9	MW-1	Post-Treatment	Water	537 TOP	308772
410-101186-10	MW-1 DUP	Post-Treatment	Water	537 TOP	308772
410-101186-11	RB-1	Post-Treatment	Water	537 TOP	308772
MB 410-308772/1-A	Method Blank	Post-Treatment	Water	537 TOP	308772
MB 410-308772/2-A	Method Blank	Post-Treatment	Water	537 TOP	308772
LCS 410-308772/3-A	Lab Control Sample	Post-Treatment	Water	537 TOP	308772
LCSD 410-308772/4-A	Lab Control Sample Dup	Post-Treatment	Water	537 TOP	308772

Analysis Batch: 312663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Total/NA	Water	ELLE SOP	313625
410-101186-2	OB-6-50	Total/NA	Water	ELLE SOP	313625
410-101186-3	OB-7-100	Total/NA	Water	ELLE SOP	313625
410-101186-4	OB-7-50	Total/NA	Water	ELLE SOP	313625
410-101186-5	MW-15S	Total/NA	Water	ELLE SOP	313625
410-101186-6	MW-15D	Total/NA	Water	ELLE SOP	313625
410-101186-7	MW-24S	Total/NA	Water	ELLE SOP	313625
410-101186-8	MW-24D	Total/NA	Water	ELLE SOP	313625
410-101186-9	MW-1	Total/NA	Water	ELLE SOP	313625
410-101186-10	MW-1 DUP	Total/NA	Water	ELLE SOP	313625
410-101186-11	RB-1	Total/NA	Water	ELLE SOP	313625
MB 410-313625/1-A	Method Blank	Total/NA	Water	ELLE SOP	313625
LCS 410-313625/2-A	Lab Control Sample	Total/NA	Water	ELLE SOP	313625
LCSD 410-313625/3-A	Lab Control Sample Dup	Total/NA	Water	ELLE SOP	313625

Analysis Batch: 313385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Post-Treatment	Water	Total PFCA-Sum	
410-101186-1	OB-6-100	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-2	OB-6-50	Post-Treatment	Water	Total PFCA-Sum	
410-101186-2	OB-6-50	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-3	OB-7-100	Post-Treatment	Water	Total PFCA-Sum	
410-101186-3	OB-7-100	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-4	OB-7-50	Post-Treatment	Water	Total PFCA-Sum	

LCMS (Continued)

Analysis Batch: 313385 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-4	OB-7-50	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-5	MW-15S	Post-Treatment	Water	Total PFCA-Sum	
410-101186-5	MW-15S	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-6	MW-15D	Post-Treatment	Water	Total PFCA-Sum	
410-101186-6	MW-15D	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-7	MW-24S	Post-Treatment	Water	Total PFCA-Sum	
410-101186-7	MW-24S	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-8	MW-24D	Post-Treatment	Water	Total PFCA-Sum	
410-101186-8	MW-24D	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-9	MW-1	Post-Treatment	Water	Total PFCA-Sum	
410-101186-9	MW-1	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-10	MW-1 DUP	Post-Treatment	Water	Total PFCA-Sum	
410-101186-10	MW-1 DUP	Pre-Treatment	Water	Total PFCA-Sum	
410-101186-11	RB-1	Post-Treatment	Water	Total PFCA-Sum	
410-101186-11	RB-1	Pre-Treatment	Water	Total PFCA-Sum	

Analysis Batch: 313386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Total/NA	Water	Total PFCA-Dif	
410-101186-2	OB-6-50	Total/NA	Water	Total PFCA-Dif	
410-101186-3	OB-7-100	Total/NA	Water	Total PFCA-Dif	
410-101186-4	OB-7-50	Total/NA	Water	Total PFCA-Dif	
410-101186-5	MW-15S	Total/NA	Water	Total PFCA-Dif	
410-101186-6	MW-15D	Total/NA	Water	Total PFCA-Dif	
410-101186-7	MW-24S	Total/NA	Water	Total PFCA-Dif	
410-101186-8	MW-24D	Total/NA	Water	Total PFCA-Dif	
410-101186-9	MW-1	Total/NA	Water	Total PFCA-Dif	
410-101186-10	MW-1 DUP	Total/NA	Water	Total PFCA-Dif	
410-101186-11	RB-1	Total/NA	Water	Total PFCA-Dif	

Prep Batch: 313625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101186-1	OB-6-100	Total/NA	Water	NONE	
410-101186-2	OB-6-50	Total/NA	Water	NONE	
410-101186-3	OB-7-100	Total/NA	Water	NONE	
410-101186-4	OB-7-50	Total/NA	Water	NONE	
410-101186-5	MW-15S	Total/NA	Water	NONE	
410-101186-6	MW-15D	Total/NA	Water	NONE	
410-101186-7	MW-24S	Total/NA	Water	NONE	
410-101186-8	MW-24D	Total/NA	Water	NONE	
410-101186-9	MW-1	Total/NA	Water	NONE	
410-101186-10	MW-1 DUP	Total/NA	Water	NONE	
410-101186-11	RB-1	Total/NA	Water	NONE	
MB 410-313625/1-A	Method Blank	Total/NA	Water	NONE	
LCS 410-313625/2-A	Lab Control Sample	Total/NA	Water	NONE	
LCSD 410-313625/3-A	Lab Control Sample Dup	Total/NA	Water	NONE	

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-6-100

Lab Sample ID: 410-101186-1

Date Collected: 10/04/22 17:45
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 02:57
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 19:24
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 16:32
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: OB-6-50

Lab Sample ID: 410-101186-2

Date Collected: 10/04/22 18:35
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 03:08
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 19:35
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 17:08
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: OB-7-100

Lab Sample ID: 410-101186-3

Date Collected: 10/04/22 19:20
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 03:19
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 19:46
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 17:43
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: OB-7-50

Lab Sample ID: 410-101186-4

Date Collected: 10/04/22 20:10
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 03:30
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 19:57
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 18:18
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: MW-15S

Lab Sample ID: 410-101186-5

Date Collected: 10/05/22 13:45
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 03:41
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 20:08
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 18:53
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: MW-15D

Lab Sample ID: 410-101186-6

Date Collected: 10/05/22 15:50
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 03:52
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 20:19
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 21:50
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-24S

Lab Sample ID: 410-101186-7

Date Collected: 10/05/22 09:55
Date Received: 10/07/22 10:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 04:03
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 20:30
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 22:26
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: MW-24D

Lab Sample ID: 410-101186-8

Date Collected: 10/05/22 11:50
Date Received: 10/07/22 10:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 04:14
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 20:41
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 23:01
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: MW-1

Lab Sample ID: 410-101186-9

Date Collected: 10/05/22 17:35
Date Received: 10/07/22 10:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			307877	JU9U	ELLE	10/18/22 15:18
Pre-Treatment	Analysis	537 IDA		1	310345	PY4D	ELLE	10/26/22 07:08
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 20:52
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 23:36
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Client Sample ID: MW-1 DUP

Lab Sample ID: 410-101186-10

Date Collected: 10/05/22 17:40
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			307877	JU9U	ELLE	10/18/22 15:18
Pre-Treatment	Analysis	537 IDA		1	310345	PY4D	ELLE	10/26/22 07:19
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 21:14
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/04/22 00:12
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Client Sample ID: RB-1

Lab Sample ID: 410-101186-11

Date Collected: 10/05/22 14:10
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			307877	JU9U	ELLE	10/18/22 15:18
Pre-Treatment	Analysis	537 IDA		1	310345	PY4D	ELLE	10/26/22 08:03
Post-Treatment	Prep	TOP Post Prep			308772	S7AC	ELLE	10/20/22 14:01
Post-Treatment	Analysis	537 TOP		1	312660	MT26	ELLE	11/01/22 21:26
Total/NA	Prep	NONE			313625	F9DU	ELLE	11/03/22 13:46
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/04/22 00:47
Total/NA	Analysis	Total PFCA-Dif		1	313386	MT26	ELLE	11/03/22 06:29
Post-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25
Pre-Treatment	Analysis	Total PFCA-Sum		1	313385	MT26	ELLE	11/03/22 06:25

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

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	01-31-23

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
537 TOP	TOP Post Prep	Water	4:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	6:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	8:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	NEtFOSAA
537 TOP	TOP Post Prep	Water	NMeFOSAA
537 TOP	TOP Post Prep	Water	Perfluorobutanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorobutanoic acid
537 TOP	TOP Post Prep	Water	Perfluorodecanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorodecanoic acid
537 TOP	TOP Post Prep	Water	Perfluorododecanoic acid
537 TOP	TOP Post Prep	Water	Perfluoroheptanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluoroheptanoic acid
537 TOP	TOP Post Prep	Water	Perfluorohexanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorohexanoic acid
537 TOP	TOP Post Prep	Water	Perfluorononanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorononanoic acid
537 TOP	TOP Post Prep	Water	Perfluorooctanesulfonamide
537 TOP	TOP Post Prep	Water	Perfluorooctanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorooctanoic acid
537 TOP	TOP Post Prep	Water	Perfluoropentanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluoropentanoic acid
537 TOP	TOP Post Prep	Water	Perfluorotetradecanoic acid
537 TOP	TOP Post Prep	Water	Perfluorotridecanoic acid
537 TOP	TOP Post Prep	Water	Perfluoroundecanoic acid
ELLE SOP	NONE	Water	Adsorbable Organic Fluorine (AOF)
Total PFCA-Dif		Water	PFBA
Total PFCA-Dif		Water	PFHpA
Total PFCA-Dif		Water	PFHxA
Total PFCA-Dif		Water	PFNA
Total PFCA-Dif		Water	PFOA
Total PFCA-Dif		Water	PFPA
Total PFCA-Dif		Water	Total PFCA
Total PFCA-Sum		Water	PFBA
Total PFCA-Sum		Water	PFHpA
Total PFCA-Sum		Water	PFHxA
Total PFCA-Sum		Water	PFNA
Total PFCA-Sum		Water	PFOA
Total PFCA-Sum		Water	PFPA
Total PFCA-Sum		Water	Total PFCA

Method Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Method	Method Description	Protocol	Laboratory
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
537 TOP	Fluorinated Alkyl Substances	EPA	ELLE
ELLE SOP	Total or Organic Fluorine by Combustion Ion Chromatography	ELLE - Lancaster	ELLE
Total PFCA-Dif	Total PFCA (Treatment Difference)	TAL SOP	ELLE
Total PFCA-Sum	Total PFCA (Summary)	TAL SOP	ELLE
NONE	Preparation, Fluorine	ELLE - Lancaster	ELLE
TOP Post Prep	Solid-Phase Extraction (SPE)	SW846	ELLE
TOP Pre - Prep	Solid-Phase Extraction (SPE)	SW846	ELLE

Protocol References:

ELLE - Lancaster = Eurofins Lancaster, Facility Standard Operating Procedure.

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-101186-1	OB-6-100	Water	10/04/22 17:45	10/07/22 10:10
410-101186-2	OB-6-50	Water	10/04/22 18:35	10/07/22 10:10
410-101186-3	OB-7-100	Water	10/04/22 19:20	10/07/22 10:10
410-101186-4	OB-7-50	Water	10/04/22 20:10	10/07/22 10:10
410-101186-5	MW-15S	Water	10/05/22 13:45	10/07/22 10:10
410-101186-6	MW-15D	Water	10/05/22 15:50	10/07/22 10:10
410-101186-7	MW-24S	Water	10/05/22 09:55	10/07/22 10:10
410-101186-8	MW-24D	Water	10/05/22 11:50	10/07/22 10:10
410-101186-9	MW-1	Water	10/05/22 17:35	10/07/22 10:10
410-101186-10	MW-1 DUP	Water	10/05/22 17:40	10/07/22 10:10
410-101186-11	RB-1	Water	10/05/22 14:10	10/07/22 10:10

410-101186 Chain of Custody

Environme

Chain of Custody Record

eurofins Environment Testing America

Sampler: Brad Mikula	Lab PM: Zanar, Elizabeth M	Carrier Tracking No(s):	COC No: 410-65242-18747.3
Client Contact: Mr. Chris Kupfer	Phone: 814-241-5054	E-Mail: Elizabeth.Zanar@et.eurofinsus.com	State of Origin: PA	Page: Page 1 of 1
Company: Michael Baker International, Inc.	PWSID:		Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard		
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: ckupfer@mbakerintl.com	WO #:		
Project Name: Saegertown PFAS Site	Project #: 41012247		
Site: Saegertown 189432	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	537_IDA_TOPS - TOP (Post-Ox) 24 PFAS	CIC_Fluorine - Absorbable Organic Fluorine	PFC_IDA - 24 PFAS	Total Number of containers	Special Instructions/Note:
					N	N	N		
OB-6-100	10/4/22	1745	G	Water	N	N	X	X	X	7	
OB-6-50	↓	1835	↑	Water	↓	↓	↓	↓	↓	↓	
OB-7-100		1920		Water							
OB-7-50	↓	2010		Water							
MW-15S	10/5/22	1345		Water							
MW-15D	↓	1550		Water							
MW-24S		0955		Water							
MW-24D		1150		Water							
MW-1		1735		Water							
MW-1 Dup		1740		Water							
RB-1	↓	1410	↓	Water	↓	↓	↓	↓	↓	↓	

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: B. Mikula	Date/Time: 10/6/22 1000	Company: MBI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/7/22 1010	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 4.6, 3.6

Ver: 06/08/2021

2 coolers CV

Login Sample Receipt Checklist

Client: Michael Baker International, Inc.

Job Number: 410-101186-1

Login Number: 101186
List Number: 1
Creator: Leakway, Christian

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

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.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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.	True	
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	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

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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 11/21/2022 6:58:14 AM

JOB DESCRIPTION

Saegertown PFAS Site

JOB NUMBER

410-101014-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

my EOL

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Analyte was found in the blank.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.
cn	Refer to Case Narrative for further detail
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
*1	LCS/LCSD RPD exceeds control limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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

Job ID: 410-101014-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-101014-1

Receipt
The samples were received on 10/7/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2°C and 5.6°C

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

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

PFAS
Method PFC_IDA: The recovery for labeled isotope: d3-NMeFOSAA is outside the QC acceptance limits in the closing continuing calibration verification standard, biased high. Since the recovery for the labeled isotope is within QC limits in the following sample: IDW-AQ (410-101014-1), the data is reported.

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

Metals
Method 6020B: The TCLP leachate blank for batch 410-306570 contained Lead and Chromium above the method detection limit (MDL) and below the reporting limit (RL). This target analyte concentration was less than the TCLP Regulatory Hazard Limit. The associated samples were also below the TCLP Regulatory Hazard Limit for this analyte; therefore, re-extraction was not performed.IDW-AQ (410-101014-1)

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.

Detection Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: IDW-AQ

Lab Sample ID: 410-101014-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13		1.0	0.30	ug/L	1		8260D	Total/NA
Acetone	25		20	0.70	ug/L	1		8260D	Total/NA
Vinyl chloride	3.4		1.0	0.20	ug/L	1		8260D	Total/NA
1,1-Dichloroethane	1.0		1.0	0.30	ug/L	1		8260D	Total/NA
2-Butanone	1.1	J	10	0.50	ug/L	1		8260D	Total/NA
Trichloroethene	2.5		1.0	0.30	ug/L	1		8260D	Total/NA
Perfluorobutanesulfonic acid	1.3	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluoroheptanesulfonic acid	0.54	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluoroheptanoic acid	0.65	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluorohexanesulfonic acid	12		1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluorohexanoic acid	1.7	J	1.8	0.82	ng/L	1		T-WI14355 r13	Total/NA
Perfluorononanoic acid	0.54	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluorooctanesulfonic acid	59		1.8	0.91	ng/L	1		T-WI14355 r13	Total/NA
Perfluorooctanoic acid	1.4	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluoropentanesulfonic acid	0.63	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluoropentanoic acid	1.2	J	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Perfluoroundecanoic acid	0.59	J I	1.8	0.46	ng/L	1		T-WI14355 r13	Total/NA
Aluminum	2300	^2	25	12	ug/L	1		6020B	Total Recoverable
Antimony	2.8		1.0	0.20	ug/L	1		6020B	Total Recoverable
Arsenic	9.0		2.0	0.68	ug/L	1		6020B	Total Recoverable
Barium	160		2.0	0.75	ug/L	1		6020B	Total Recoverable
Calcium	89000		1000	500	ug/L	10		6020B	Total Recoverable
Chromium	9.9		2.0	0.33	ug/L	1		6020B	Total Recoverable
Cobalt	2.9		0.50	0.16	ug/L	1		6020B	Total Recoverable
Copper	8.6	^2	1.0	0.36	ug/L	1		6020B	Total Recoverable
Iron	9300	^2	50	20	ug/L	1		6020B	Total Recoverable
Lead	6.4		0.50	0.071	ug/L	1		6020B	Total Recoverable
Magnesium	17000	^2	50	16	ug/L	1		6020B	Total Recoverable
Manganese	640	^2	2.0	0.95	ug/L	1		6020B	Total Recoverable
Nickel	6.2		1.0	0.40	ug/L	1		6020B	Total Recoverable
Potassium	2900		200	65	ug/L	1		6020B	Total Recoverable
Selenium	0.33	J	1.0	0.28	ug/L	1		6020B	Total Recoverable
Sodium	86000		2000	900	ug/L	10		6020B	Total Recoverable
Zinc	22		10	4.0	ug/L	1		6020B	Total Recoverable
Vanadium	4.4		4.0	0.79	ug/L	1		6020B	Total Recoverable
Barium	140	cn	20	7.5	ug/L	1		6020B	TCLP
Chromium	14	J cn	20	3.3	ug/L	1		6020B	TCLP

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: IDW-AQ (Continued) — Lab Sample ID: 410-101014-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	4.7	J cn	10	4.0	ug/L	1		6020B	TCLP
Flashpoint	>180	*1	50	50	Degrees F	1		1010B	Total/NA
pH	7.0	HF	0.01	0.01	S.U.	1		9040C	Total/NA
Temperature	21.1	HF !	0.01	0.01	Degrees C	1		9040C	Total/NA
Corrosivity	No	HF	0.01	0.01	NONE	1		9040C	Total/NA
Specific Gravity	1.0	!	0.020	0.020	NONE	1		SM 2710F	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 410-101014-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: IDW-AQ

Date Collected: 10/05/22 18:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101014-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 05:28	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Ethylbenzene	ND		1.0	0.40	ug/L			10/19/22 05:28	1
Styrene	ND		5.0	0.30	ug/L			10/19/22 05:28	1
1,4-Dichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 05:28	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			10/19/22 05:28	1
Methylcyclohexane	ND		5.0	0.50	ug/L			10/19/22 05:28	1
Toluene	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Chlorobenzene	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Cyclohexane	ND		5.0	1.0	ug/L			10/19/22 05:28	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 05:28	1
Dibromochloromethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Xylenes, Total	ND		1.0	0.40	ug/L			10/19/22 05:28	1
Tetrachloroethene	ND		1.0	0.30	ug/L			10/19/22 05:28	1
cis-1,2-Dichloroethene	**13**		1.0	0.30	ug/L			10/19/22 05:28	1
trans-1,2-Dichloroethene	ND		2.0	0.70	ug/L			10/19/22 05:28	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			10/19/22 05:28	1
1,3-Dichlorobenzene	ND		5.0	0.68	ug/L			10/19/22 05:28	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			10/19/22 05:28	1
2-Hexanone	ND		10	0.85	ug/L			10/19/22 05:28	1
Acetone	**25**		20	0.70	ug/L			10/19/22 05:28	1
Chloroform	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Benzene	ND		1.0	0.30	ug/L			10/19/22 05:28	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Bromomethane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Chloromethane	ND		2.0	0.55	ug/L			10/19/22 05:28	1
Chloroethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Vinyl chloride	**3.4**		1.0	0.20	ug/L			10/19/22 05:28	1
Methylene Chloride	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Carbon disulfide	ND		5.0	0.30	ug/L			10/19/22 05:28	1
Bromoform	ND		4.0	1.0	ug/L			10/19/22 05:28	1
Bromodichloromethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
1,1-Dichloroethane	**1.0**		1.0	0.30	ug/L			10/19/22 05:28	1
1,1-Dichloroethene	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			10/19/22 05:28	1
Freon 113	ND		10	0.30	ug/L			10/19/22 05:28	1
1,2-Dichloropropane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
2-Butanone	**1.1**	**J**	10	0.50	ug/L			10/19/22 05:28	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
Trichloroethene	**2.5**		1.0	0.30	ug/L			10/19/22 05:28	1
Methyl acetate	ND		5.0	0.30	ug/L			10/19/22 05:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.30	ug/L			10/19/22 05:28	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			10/19/22 05:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			10/19/22 05:28	1
Isopropylbenzene	ND		5.0	0.20	ug/L			10/19/22 05:28	1

Client Sample ID: IDW-AQ

Date Collected: 10/05/22 18:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101014-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*10/19/22 05:28*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*10/19/22 05:28*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/19/22 05:28*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*10/19/22 05:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/22 22:25	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/22 22:25	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/22 22:25	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*10/20/22 22:25*	*20*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*10/20/22 22:25*	*20*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*10/20/22 22:25*	*20*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/20/22 22:25*	*20*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,2'-oxybis[1-chloropropane]	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4,5-Trichlorophenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4,6-Trichlorophenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4-Dichlorophenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4-Dimethylphenol	ND		10	3.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4-Dinitrophenol	ND		31	14	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,4-Dinitrotoluene	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
2,6-Dinitrotoluene	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Chloronaphthalene	ND		1.0	0.41	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Chlorophenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Methylnaphthalene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Methylphenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Nitroaniline	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
2-Nitrophenol	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
3,3'-Dichlorobenzidine	ND		10	4.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
3-Nitroaniline	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
4,6-Dinitro-2-methylphenol	ND		22	8.2	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Bromophenyl phenyl ether	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Chloro-3-methylphenol	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Chloroaniline	ND		10	4.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Chlorophenyl phenyl ether	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Methylphenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Nitroaniline	ND		3.1	0.93	ug/L		10/12/22 15:41	10/14/22 02:00	1
4-Nitrophenol	ND		31	10	ug/L		10/12/22 15:41	10/14/22 02:00	1

Client Sample ID: IDW-AQ

Date Collected: 10/05/22 18:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101014-1

Matrix: Water

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Acenaphthylene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Acetophenone	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
Anthracene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Atrazine	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzaldehyde	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzo[a]anthracene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzo[a]pyrene	ND		0.52	0.11	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzo[b]fluoranthene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzo[g,h,i]perylene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Benzo[k]fluoranthene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Bis(2-chloroethoxy)methane	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Bis(2-chloroethyl)ether	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Butyl benzyl phthalate	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Caprolactam	ND		7.2	3.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Carbazole	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Chrysene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Di-n-butyl phthalate	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Di-n-octyl phthalate	ND		11	5.2	ug/L		10/12/22 15:41	10/14/22 02:00	1
Dibenz(a,h)anthracene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Dibenzofuran	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Diethyl phthalate	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Dimethyl phthalate	ND		5.2	2.1	ug/L		10/12/22 15:41	10/14/22 02:00	1
Fluoranthene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Fluorene	ND		0.52	0.12	ug/L		10/12/22 15:41	10/14/22 02:00	1
Hexachlorobenzene	ND		0.52	0.11	ug/L		10/12/22 15:41	10/14/22 02:00	1
Hexachlorobutadiene	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Hexachlorocyclopentadiene	ND		11	5.2	ug/L		10/12/22 15:41	10/14/22 02:00	1
Hexachloroethane	ND		5.2	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Indeno[1,2,3-cd]pyrene	ND		0.52	0.11	ug/L		10/12/22 15:41	10/14/22 02:00	1
Isophorone	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
N-Nitrosodi-n-propylamine	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
N-Nitrosodiphenylamine	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Naphthalene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1
Nitrobenzene	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Pentachlorophenol	ND		5.2	1.0	ug/L		10/12/22 15:41	10/14/22 02:00	1
Phenanthrene	ND		0.52	0.11	ug/L		10/12/22 15:41	10/14/22 02:00	1
Phenol	ND		2.1	0.52	ug/L		10/12/22 15:41	10/14/22 02:00	1
Pyrene	ND		0.52	0.10	ug/L		10/12/22 15:41	10/14/22 02:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*83*		*44 - 120*	*10/12/22 15:41*	*10/14/22 02:00*	*1*
2-Fluorophenol (Surr)	*39*		*10 - 120*	*10/12/22 15:41*	*10/14/22 02:00*	*1*
Nitrobenzene-d5 (Surr)	*66*		*25 - 125*	*10/12/22 15:41*	*10/14/22 02:00*	*1*
p-Terphenyl-d14 (Surr)	*68*		*37 - 120*	*10/12/22 15:41*	*10/14/22 02:00*	*1*
2,4,6-Tribromophenol (Surr)	*78*		*10 - 150*	*10/12/22 15:41*	*10/14/22 02:00*	*1*
Phenol-d5 (Surr)	*26*		*10 - 120*	*10/12/22 15:41*	*10/14/22 02:00*	*1*

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: IDW-AQ

Date Collected: 10/05/22 18:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101014-1

Matrix: Water

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/20/22 15:50	10/21/22 15:19	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/20/22 15:50	10/21/22 15:19	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 15:19	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/20/22 15:50	10/21/22 15:19	1
Pyridine	ND		0.025	0.010	mg/L		10/20/22 15:50	10/21/22 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*74*		*10 - 150*	*10/20/22 15:50*	*10/21/22 15:19*	*1*
2-Fluorobiphenyl (Surr)	*81*		*44 - 120*	*10/20/22 15:50*	*10/21/22 15:19*	*1*
2-Fluorophenol (Surr)	*36*		*10 - 120*	*10/20/22 15:50*	*10/21/22 15:19*	*1*
Nitrobenzene-d5 (Surr)	*83*		*25 - 125*	*10/20/22 15:50*	*10/21/22 15:19*	*1*
p-Terphenyl-d14 (Surr)	*95*		*37 - 120*	*10/20/22 15:50*	*10/21/22 15:19*	*1*
Phenol-d5 (Surr)	*26*		*10 - 120*	*10/20/22 15:50*	*10/21/22 15:19*	*1*

Method: ELLE - Lancaster T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
6:2 Fluorotelomer sulfonic acid	ND		4.6	3.8	ng/L		10/18/22 07:26	10/21/22 17:39	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.91	ng/L		10/18/22 07:26	10/21/22 17:39	1
NEtFOSAA	ND		2.7	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
NMeFOSAA	ND		1.8	0.55	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorobutanesulfonic acid	**1.3**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorobutanoic acid	ND		4.6	1.8	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorodecanesulfonic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorodecanoic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorododecanoic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluoroheptanesulfonic acid	**0.54**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluoroheptanoic acid	**0.65**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorohexanesulfonic acid	**12**		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorohexanoic acid	**1.7**	**J**	1.8	0.82	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorononanesulfonic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorononanoic acid	**0.54**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorooctanesulfonamide	ND		1.8	0.64	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorooctanesulfonic acid	**59**		1.8	0.91	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorooctanoic acid	**1.4**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluoropentanesulfonic acid	**0.63**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluoropentanoic acid	**1.2**	**J**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorotetradecanoic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluorotridecanoic acid	ND		1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1
Perfluoroundecanoic acid	**0.59**	**J I**	1.8	0.46	ng/L		10/18/22 07:26	10/21/22 17:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*196*		*10 - 200*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
M2-6:2 FTS	*136*		*17 - 200*	*10/18/22 07:26*	*10/21/22 17:39*	*1*

Client Sample ID: IDW-AQ

Date Collected: 10/05/22 18:45
Date Received: 10/07/22 10:10

Lab Sample ID: 410-101014-1

Matrix: Water

Method: ELLE - Lancaster T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-8:2 FTS	*138*		*33 - 200*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C2 PFTeDA	*42*		*10 - 179*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C3 PFBS	*80*		*16 - 200*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C4 PFBA	*78*		*42 - 165*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C4 PFHpA	*78*		*31 - 182*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C5 PFPeA	*81*		*38 - 187*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C8 PFOA	*74*		*48 - 162*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C8 PFOS	*83*		*51 - 159*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
d3-NMeFOSAA	*51*	*^c cn*	*31 - 174*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
d5-NEtFOSAA	*34*		*29 - 195*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C3 PFHxS	*72*		*28 - 188*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C5 PFHxA	*71*		*24 - 179*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C6 PFDA	*79*		*49 - 163*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C7 PFUnA	*41*		*34 - 174*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C8 FOSA	*37*		*10 - 168*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C2-PFDoDA	*21*		*17 - 176*	*10/18/22 07:26*	*10/21/22 17:39*	*1*
13C9 PFNA	*86*		*51 - 167*	*10/18/22 07:26*	*10/21/22 17:39*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2300**	**^2**	25	12	ug/L		10/12/22 15:12	10/21/22 12:59	1
Antimony	**2.8**		1.0	0.20	ug/L		10/12/22 15:12	10/21/22 12:59	1
Arsenic	**9.0**		2.0	0.68	ug/L		10/12/22 15:12	10/21/22 12:59	1
Barium	**160**		2.0	0.75	ug/L		10/12/22 15:12	10/21/22 12:59	1
Beryllium	ND		0.50	0.12	ug/L		10/12/22 15:12	10/21/22 12:59	1
Cadmium	ND		0.50	0.15	ug/L		10/12/22 15:12	10/21/22 12:59	1
Calcium	**89000**		1000	500	ug/L		10/12/22 15:12	11/08/22 19:41	10
Chromium	**9.9**		2.0	0.33	ug/L		10/12/22 15:12	10/21/22 12:59	1
Cobalt	**2.9**		0.50	0.16	ug/L		10/12/22 15:12	11/08/22 19:39	1
Copper	**8.6**	**^2**	1.0	0.36	ug/L		10/12/22 15:12	10/21/22 12:59	1
Iron	**9300**	**^2**	50	20	ug/L		10/12/22 15:12	10/21/22 12:59	1
Lead	**6.4**		0.50	0.071	ug/L		10/12/22 15:12	10/21/22 12:59	1
Magnesium	**17000**	**^2**	50	16	ug/L		10/12/22 15:12	10/21/22 12:59	1
Manganese	**640**	**^2**	2.0	0.95	ug/L		10/12/22 15:12	10/21/22 12:59	1
Nickel	**6.2**		1.0	0.40	ug/L		10/12/22 15:12	11/18/22 09:08	1
Potassium	**2900**		200	65	ug/L		10/12/22 15:12	10/21/22 12:59	1
Selenium	**0.33**	**J**	1.0	0.28	ug/L		10/12/22 15:12	10/21/22 12:59	1
Silver	ND	!	0.50	0.10	ug/L		10/12/22 15:12	10/21/22 12:59	1
Sodium	**86000**		2000	900	ug/L		10/12/22 15:12	11/08/22 19:41	10
Thallium	ND		0.50	0.13	ug/L		10/12/22 15:12	10/21/22 12:59	1
Zinc	**22**		10	4.0	ug/L		10/12/22 15:12	10/21/22 12:59	1
Vanadium	**4.4**		4.0	0.79	ug/L		10/12/22 15:12	10/21/22 12:59	1

Method: SW846 6020B - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	cn	20	6.8	ug/L		10/14/22 06:53	10/18/22 17:06	1
Barium	**140**	**cn**	20	7.5	ug/L		10/14/22 06:53	10/18/22 17:06	1
Cadmium	ND	cn	5.0	1.5	ug/L		10/14/22 06:53	10/18/22 17:06	1
Chromium	**14**	**J cn**	20	3.3	ug/L		10/14/22 06:53	10/18/22 17:06	1
Lead	ND	cn	5.0	0.71	ug/L		10/14/22 06:53	10/18/22 17:06	1

Client Sample ID: IDW-AQ

Lab Sample ID: 410-101014-1

Date Collected: 10/05/22 18:45
Matrix: Water
Date Received: 10/07/22 10:10

Method: SW846 6020B - Metals (ICP/MS) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	cn	10	2.8	ug/L		10/14/22 06:53	10/18/22 17:06	1
Silver	ND	! cn	5.0	1.0	ug/L		10/14/22 06:53	10/18/22 17:06	1
Copper	ND	cn	10	3.6	ug/L		10/14/22 06:53	10/18/22 17:06	1
Nickel	**4.7**	**J cn**	10	4.0	ug/L		10/14/22 06:53	10/18/22 17:06	1
Zinc	ND	cn	100	40	ug/L		10/14/22 06:53	10/18/22 17:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/11/22 21:08	10/12/22 18:28	1

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/14/22 07:17	10/14/22 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint (SW846 1010B)	**>180**	***1**	50	50	Degrees F			10/18/22 14:10	1
Cyanide, Reactive (SW846 9012)	ND	!	59	20	mg/Kg		10/12/22 08:11	10/12/22 12:06	1
Sulfide, Reactive (SW846 9034)	ND	!	160	53	mg/Kg		10/12/22 08:11	10/12/22 11:27	1
pH (SW846 9040C)	**7.0**	**HF**	0.01	0.01	S.U.			10/17/22 14:17	1
Temperature (SW846 9040C)	**21.1**	**HF !**	0.01	0.01	Degrees C			10/17/22 14:17	1
Corrosivity (SW846 9040C)	**No**	**HF**	0.01	0.01	NONE			10/17/22 14:17	1
Specific Gravity (SM 2710F)	**1.0**	**!**	0.020	0.020	NONE			10/14/22 18:35	1

Client Sample ID: Trip Blank

Lab Sample ID: 410-101014-2

Date Collected: 10/05/22 00:00
Matrix: Water
Date Received: 10/07/22 10:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 01:26	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Ethylbenzene	ND		1.0	0.40	ug/L			10/19/22 01:26	1
Styrene	ND		5.0	0.30	ug/L			10/19/22 01:26	1
1,4-Dichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 01:26	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			10/19/22 01:26	1
Methylcyclohexane	ND		5.0	0.50	ug/L			10/19/22 01:26	1
Toluene	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Chlorobenzene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Cyclohexane	ND		5.0	1.0	ug/L			10/19/22 01:26	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 01:26	1
Dibromochloromethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Xylenes, Total	ND		1.0	0.40	ug/L			10/19/22 01:26	1
Tetrachloroethene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
cis-1,2-Dichloroethene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
trans-1,2-Dichloroethene	ND		2.0	0.70	ug/L			10/19/22 01:26	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			10/19/22 01:26	1
1,3-Dichlorobenzene	ND		5.0	0.68	ug/L			10/19/22 01:26	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			10/19/22 01:26	1

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: Trip Blank

Lab Sample ID: 410-101014-2

Date Collected: 10/05/22 00:00
Date Received: 10/07/22 10:10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		10	0.85	ug/L			10/19/22 01:26	1
Acetone	ND		20	0.70	ug/L			10/19/22 01:26	1
Chloroform	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Benzene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Bromomethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Chloromethane	ND		2.0	0.55	ug/L			10/19/22 01:26	1
Chloroethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Vinyl chloride	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Methylene Chloride	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Carbon disulfide	ND		5.0	0.30	ug/L			10/19/22 01:26	1
Bromoform	ND		4.0	1.0	ug/L			10/19/22 01:26	1
Bromodichloromethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
1,1-Dichloroethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
1,1-Dichloroethene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			10/19/22 01:26	1
Freon 113	ND		10	0.30	ug/L			10/19/22 01:26	1
1,2-Dichloropropane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
2-Butanone	ND		10	0.50	ug/L			10/19/22 01:26	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Trichloroethene	ND		1.0	0.30	ug/L			10/19/22 01:26	1
Methyl acetate	ND		5.0	0.30	ug/L			10/19/22 01:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.30	ug/L			10/19/22 01:26	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			10/19/22 01:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			10/19/22 01:26	1
Isopropylbenzene	ND		5.0	0.20	ug/L			10/19/22 01:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*10/19/22 01:26*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*10/19/22 01:26*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/19/22 01:26*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*10/19/22 01:26*	*1*

Surrogate Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	DBFM	BFB	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-101014-1	IDW-AQ	103	97	99	104
410-101014-2	Trip Blank	101	97	99	104
LCS 410-307990/4	Lab Control Sample	101	96	101	105
LCS 410-308764/4	Lab Control Sample	107	108	98	97
MB 410-307990/6	Method Blank	101	97	99	105
MB 410-308764/6	Method Blank	106	107	96	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-101014-1	IDW-AQ	96	107	108	96
410-101014-1 MS	IDW-AQ	97	109	109	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	TPHd14	TBP	PHL
Lab Sample ID	Client Sample ID	(44-120)	(10-120)	(25-125)	(37-120)	(10-150)	(10-120)
410-101014-1	IDW-AQ	83	39	66	68	78	26
LCS 410-305886/2-A	Lab Control Sample	91	46	73	107	108	31
LCS 410-308814/2-A	Lab Control Sample	87	54	87	97	85	43
LCSD 410-305886/3-A	Lab Control Sample Dup	87	50	69	103	102	34
LCSD 410-308814/3-A	Lab Control Sample Dup	86	52	88	97	84	41
MB 410-305886/1-A	Method Blank	92	45	74	103	100	29
MB 410-308814/1-A	Method Blank	85	47	85	103	79	36

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
PHL = Phenol-d5 (Surr)

Surrogate Summary

Client: Michael Baker International, Inc.
Job ID: 410-101014-1
Project/Site: Saegertown PFAS Site

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: TCLP

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	TPHd14	PHL		
Lab Sample ID	Client Sample ID	(10-150)	(44-120)	(10-120)	(25-125)	(37-120)	(10-120)		
410-101014-1	IDW-AQ	74	81	36	83	95	26		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Method: T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	PFTDA	C3PFBS	PFBA	C4PFHA	PFPeA
Lab Sample ID	Client Sample ID	(10-200)	(17-200)	(33-200)	(10-179)	(16-200)	(42-165)	(31-182)	(38-187)
410-101014-1	IDW-AQ	196	136	138	42	80	78	78	81
LCS 410-307602/2-A	Lab Control Sample	98	96	97	76	83	89	89	97
MB 410-307602/1-A	Method Blank	110	106	111	90	92	104	106	124

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C8PFOA	C8PFOS	d3NMFOS	d5NEFOS	C3PFHS	13C5PHA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(48-162)	(51-159)	(31-174)	(29-195)	(28-188)	(24-179)	(49-163)	(34-174)
410-101014-1	IDW-AQ	74	83	51 ^c cn	34	72	71	79	41
LCS 410-307602/2-A	Lab Control Sample	84	97	110	104	84	85	93	88
MB 410-307602/1-A	Method Blank	106	113	121	116	98	103	103	105

		Percent Isotope Dilution Recovery (Acceptance Limits)		
		PFOSA	PFDoDA	C9PFNA
Lab Sample ID	Client Sample ID	(10-168)	(17-176)	(51-167)
410-101014-1	IDW-AQ	37	21	86
LCS 410-307602/2-A	Lab Control Sample	75	82	92
MB 410-307602/1-A	Method Blank	88	84	119

Surrogate Legend

M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
C3PFHS = 13C3 PFHxS
13C5PHA = 13C5 PFHxA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFOSA = 13C8 FOSA
PFDoDA = 13C2-PFDoDA
C9PFNA = 13C9 PFNA

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

Lab Sample ID: MB 410-307990/6
Matrix: Water
Analysis Batch: 307990

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 00:20	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			10/19/22 00:20	1
Styrene	ND		5.0	0.30	ug/L			10/19/22 00:20	1
1,4-Dichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 00:20	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			10/19/22 00:20	1
Methylcyclohexane	ND		5.0	0.50	ug/L			10/19/22 00:20	1
Toluene	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Chlorobenzene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Cyclohexane	ND		5.0	1.0	ug/L			10/19/22 00:20	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			10/19/22 00:20	1
Dibromochloromethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Xylenes, Total	ND		1.0	0.40	ug/L			10/19/22 00:20	1
Tetrachloroethene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
cis-1,2-Dichloroethene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
trans-1,2-Dichloroethene	ND		2.0	0.70	ug/L			10/19/22 00:20	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			10/19/22 00:20	1
1,3-Dichlorobenzene	ND		5.0	0.68	ug/L			10/19/22 00:20	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			10/19/22 00:20	1
2-Hexanone	ND		10	0.85	ug/L			10/19/22 00:20	1
Acetone	ND		20	0.70	ug/L			10/19/22 00:20	1
Chloroform	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Benzene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Bromomethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Chloromethane	ND		2.0	0.55	ug/L			10/19/22 00:20	1
Chloroethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Vinyl chloride	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Methylene Chloride	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Carbon disulfide	ND		5.0	0.30	ug/L			10/19/22 00:20	1
Bromoform	ND		4.0	1.0	ug/L			10/19/22 00:20	1
Bromodichloromethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
1,1-Dichloroethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
1,1-Dichloroethene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			10/19/22 00:20	1
Freon 113	ND		10	0.30	ug/L			10/19/22 00:20	1
1,2-Dichloropropane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
2-Butanone	ND		10	0.50	ug/L			10/19/22 00:20	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Trichloroethene	ND		1.0	0.30	ug/L			10/19/22 00:20	1
Methyl acetate	ND		5.0	0.30	ug/L			10/19/22 00:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.30	ug/L			10/19/22 00:20	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			10/19/22 00:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			10/19/22 00:20	1
Isopropylbenzene	ND		5.0	0.20	ug/L			10/19/22 00:20	1

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

Lab Sample ID: MB 410-307990/6
Matrix: Water
Analysis Batch: 307990

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		10/19/22 00:20	1
Dibromofluoromethane (Surr)	97		80 - 120		10/19/22 00:20	1
4-Bromofluorobenzene (Surr)	99		80 - 120		10/19/22 00:20	1
Toluene-d8 (Surr)	105		80 - 120		10/19/22 00:20	1

Lab Sample ID: LCS 410-307990/4
Matrix: Water
Analysis Batch: 307990

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	75 - 120
trans-1,3-Dichloropropene	20.0	19.6		ug/L		98	67 - 120
Ethylbenzene	20.0	18.8		ug/L		94	80 - 120
Styrene	20.0	18.1		ug/L		91	80 - 120
1,4-Dichlorobenzene	20.0	18.6		ug/L		93	80 - 120
1,2-Dibromoethane	20.0	19.5		ug/L		97	77 - 120
1,2-Dichloroethane	20.0	17.9		ug/L		89	73 - 124
4-Methyl-2-pentanone	250	233		ug/L		93	62 - 133
Methylcyclohexane	20.0	16.8		ug/L		84	67 - 121
Toluene	20.0	19.1		ug/L		96	80 - 120
Chlorobenzene	20.0	18.8		ug/L		94	80 - 120
Cyclohexane	20.0	17.5		ug/L		87	68 - 126
1,2,4-Trichlorobenzene	20.0	17.1		ug/L		85	63 - 120
Dibromochloromethane	20.0	18.3		ug/L		92	71 - 120
Xylenes, Total	60.0	55.4		ug/L		92	80 - 120
Tetrachloroethene	20.0	16.3		ug/L		82	80 - 120
cis-1,2-Dichloroethene	20.0	18.8		ug/L		94	80 - 125
trans-1,2-Dichloroethene	20.0	17.9		ug/L		89	80 - 126
Methyl tertiary butyl ether	20.0	19.1		ug/L		95	69 - 122
1,3-Dichlorobenzene	20.0	18.5		ug/L		93	80 - 120
Carbon tetrachloride	20.0	15.7		ug/L		78	64 - 134
2-Hexanone	250	254		ug/L		101	56 - 135
Acetone	250	262		ug/L		105	54 - 157
Chloroform	20.0	17.5		ug/L		87	80 - 120
Benzene	20.0	18.9		ug/L		95	80 - 120
1,1,1-Trichloroethane	20.0	16.4		ug/L		82	67 - 126
Bromomethane	20.0	14.9		ug/L		75	53 - 128
Chloromethane	20.0	18.7		ug/L		93	56 - 121
Chloroethane	20.0	17.6		ug/L		88	55 - 123
Vinyl chloride	20.0	16.7		ug/L		84	56 - 120
Methylene Chloride	20.0	18.6		ug/L		93	80 - 120
Carbon disulfide	20.0	19.5		ug/L		98	65 - 128
Bromoform	20.0	16.3		ug/L		81	51 - 120
Bromodichloromethane	20.0	17.8		ug/L		89	71 - 120
1,1-Dichloroethane	20.0	18.3		ug/L		92	80 - 120
1,1-Dichloroethene	20.0	18.1		ug/L		90	80 - 131
Trichlorofluoromethane	20.0	14.1		ug/L		70	55 - 135
Dichlorodifluoromethane	20.0	17.3		ug/L		86	41 - 127

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

Lab Sample ID: LCS 410-307990/4
Matrix: Water
Analysis Batch: 307990

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Freon 113	20.0	17.4		ug/L		87	73 - 139
1,2-Dichloropropane	20.0	18.9		ug/L		95	80 - 120
2-Butanone	250	250		ug/L		100	59 - 135
1,1,2-Trichloroethane	20.0	20.0		ug/L		100	80 - 120
Trichloroethene	20.0	17.9		ug/L		90	80 - 120
Methyl acetate	20.0	20.7		ug/L		104	54 - 136
1,1,2,2-Tetrachloroethane	20.0	22.2		ug/L		111	72 - 120
1,2-Dichlorobenzene	20.0	18.4		ug/L		92	80 - 120
1,2-Dibromo-3-Chloropropane	20.0	18.9		ug/L		94	47 - 131
Isopropylbenzene	20.0	18.4		ug/L		92	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 410-308764/6
Matrix: Water
Analysis Batch: 308764

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Chloroform	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Benzene	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
Vinyl chloride	ND		0.0010	0.00020	mg/L			10/20/22 15:30	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1
2-Butanone	ND		0.010	0.00050	mg/L			10/20/22 15:30	1
Trichloroethene	ND		0.0010	0.00030	mg/L			10/20/22 15:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*10/20/22 15:30*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*10/20/22 15:30*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*10/20/22 15:30*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*10/20/22 15:30*	*1*

Lab Sample ID: LCS 410-308764/4
Matrix: Water
Analysis Batch: 308764

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	0.0200	0.0212		mg/L		106	73 - 124
Chlorobenzene	0.0200	0.0203		mg/L		102	80 - 120
Tetrachloroethene	0.0200	0.0210		mg/L		105	80 - 120
Carbon tetrachloride	0.0200	0.0243		mg/L		122	64 - 134

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

Lab Sample ID: LCS 410-308764/4
Matrix: Water
Analysis Batch: 308764

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	0.0200	0.0208		mg/L		104	80 - 120
Benzene	0.0200	0.0212		mg/L		106	80 - 120
Vinyl chloride	0.0200	0.0196		mg/L		98	56 - 120
1,1-Dichloroethene	0.0200	0.0207		mg/L		103	80 - 131
2-Butanone	0.250	0.237		mg/L		95	59 - 135
Trichloroethene	0.0200	0.0198		mg/L		99	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 410-101014-1 MS
Matrix: Water
Analysis Batch: 308764

Client Sample ID: IDW-AQ
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	ND		0.400	0.433		mg/L		108	73 - 124
Chlorobenzene	ND		0.400	0.426		mg/L		106	80 - 120
Tetrachloroethene	ND		0.400	0.443		mg/L		111	80 - 120
Carbon tetrachloride	ND		0.400	0.511		mg/L		128	64 - 134
Chloroform	ND		0.400	0.437		mg/L		109	80 - 120
Benzene	ND		0.400	0.447		mg/L		112	80 - 120
Vinyl chloride	ND		0.400	0.312		mg/L		78	56 - 120
1,1-Dichloroethene	ND		0.400	0.460		mg/L		115	80 - 131
2-Butanone	ND		5.00	5.32		mg/L		106	59 - 135
Trichloroethene	ND		0.400	0.427		mg/L		107	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-305886/1-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 305886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,2'-oxybis[1-chloropropane]	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,4,5-Trichlorophenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,4,6-Trichlorophenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,4-Dichlorophenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,4-Dimethylphenol	ND		10	3.0	ug/L		10/12/22 15:41	10/13/22 17:56	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-305886/1-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 305886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		30	14	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,4-Dinitrotoluene	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
2,6-Dinitrotoluene	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Chloronaphthalene	ND		1.0	0.40	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Chlorophenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Methylnaphthalene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Methylphenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Nitroaniline	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
2-Nitrophenol	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
3,3'-Dichlorobenzidine	ND		10	4.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
3-Nitroaniline	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
4,6-Dinitro-2-methylphenol	ND		21	8.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Bromophenyl phenyl ether	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Chloro-3-methylphenol	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Chloroaniline	ND		10	4.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Chlorophenyl phenyl ether	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Methylphenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Nitroaniline	ND		3.0	0.90	ug/L		10/12/22 15:41	10/13/22 17:56	1
4-Nitrophenol	ND		30	10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Acenaphthene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Acenaphthylene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Acetophenone	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Anthracene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Atrazine	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzaldehyde	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzo[a]anthracene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzo[a]pyrene	ND		0.50	0.11	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzo[b]fluoranthene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzo[g,h,i]perylene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Benzo[k]fluoranthene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Bis(2-chloroethoxy)methane	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Bis(2-chloroethyl)ether	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Butyl benzyl phthalate	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Caprolactam	ND		7.0	3.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Carbazole	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Chrysene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Di-n-butyl phthalate	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Di-n-octyl phthalate	ND		11	5.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Dibenz(a,h)anthracene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Dibenzofuran	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Diethyl phthalate	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Dimethyl phthalate	ND		5.0	2.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Fluoranthene	0.105	J B	0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Fluorene	ND		0.50	0.12	ug/L		10/12/22 15:41	10/13/22 17:56	1
Hexachlorobenzene	ND		0.50	0.11	ug/L		10/12/22 15:41	10/13/22 17:56	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Hexachlorocyclopentadiene	ND		11	5.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Hexachloroethane	ND		5.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-305886/1-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 305886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.50	0.11	ug/L		10/12/22 15:41	10/13/22 17:56	1
Isophorone	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
N-Nitrosodi-n-propylamine	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
N-Nitrosodiphenylamine	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Naphthalene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1
Nitrobenzene	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Pentachlorophenol	ND		5.0	1.0	ug/L		10/12/22 15:41	10/13/22 17:56	1
Phenanthrene	ND		0.50	0.11	ug/L		10/12/22 15:41	10/13/22 17:56	1
Phenol	ND		2.0	0.50	ug/L		10/12/22 15:41	10/13/22 17:56	1
Pyrene	ND		0.50	0.10	ug/L		10/12/22 15:41	10/13/22 17:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*92*		*44 - 120*	*10/12/22 15:41*	*10/13/22 17:56*	*1*
2-Fluorophenol (Surr)	*45*		*10 - 120*	*10/12/22 15:41*	*10/13/22 17:56*	*1*
Nitrobenzene-d5 (Surr)	*74*		*25 - 125*	*10/12/22 15:41*	*10/13/22 17:56*	*1*
p-Terphenyl-d14 (Surr)	*103*		*37 - 120*	*10/12/22 15:41*	*10/13/22 17:56*	*1*
2,4,6-Tribromophenol (Surr)	*100*		*10 - 150*	*10/12/22 15:41*	*10/13/22 17:56*	*1*
Phenol-d5 (Surr)	*29*		*10 - 120*	*10/12/22 15:41*	*10/13/22 17:56*	*1*

Lab Sample ID: LCS 410-305886/2-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 305886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1'-Biphenyl	50.0	47.7		ug/L		95	60 - 120
2,2'-oxybis[1-chloropropane]	50.0	35.8		ug/L		72	43 - 121
2,4,5-Trichlorophenol	50.0	52.4		ug/L		105	70 - 124
2,4,6-Trichlorophenol	50.0	50.7		ug/L		101	63 - 120
2,4-Dichlorophenol	50.0	46.7		ug/L		93	65 - 121
2,4-Dimethylphenol	50.0	44.0		ug/L		88	62 - 120
2,4-Dinitrophenol	100	94.6		ug/L		95	43 - 146
2,4-Dinitrotoluene	50.0	50.5		ug/L		101	71 - 124
2,6-Dinitrotoluene	50.0	51.1		ug/L		102	74 - 127
2-Chloronaphthalene	50.0	46.7		ug/L		93	56 - 120
2-Chlorophenol	50.0	35.4		ug/L		71	57 - 120
2-Methylnaphthalene	50.0	39.9		ug/L		80	53 - 120
2-Methylphenol	50.0	34.5		ug/L		69	58 - 120
2-Nitroaniline	50.0	45.9		ug/L		92	71 - 128
2-Nitrophenol	50.0	41.1		ug/L		82	68 - 122
3,3'-Dichlorobenzidine	100	92.2		ug/L		92	48 - 120
3-Nitroaniline	50.0	46.4		ug/L		93	56 - 120
4,6-Dinitro-2-methylphenol	100	102		ug/L		102	66 - 138
4-Bromophenyl phenyl ether	50.0	53.2		ug/L		106	66 - 120
4-Chloro-3-methylphenol	50.0	39.4		ug/L		79	63 - 128
4-Chloroaniline	50.0	41.1		ug/L		82	49 - 120
4-Chlorophenyl phenyl ether	50.0	49.1		ug/L		98	59 - 120
4-Methylphenol	50.0	32.0		ug/L		64	49 - 120
4-Nitroaniline	50.0	44.6		ug/L		89	63 - 121

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-305886/2-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 305886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Nitrophenol	100	44.8		ug/L		45	24 - 120
Acenaphthene	50.0	46.2		ug/L		92	59 - 120
Acenaphthylene	50.0	46.5		ug/L		93	67 - 120
Acetophenone	50.0	38.8		ug/L		78	66 - 120
Anthracene	50.0	48.8		ug/L		98	67 - 123
Atrazine	50.0	46.2		ug/L		92	59 - 142
Benzaldehyde	50.0	34.4		ug/L		69	42 - 129
Benzo[a]anthracene	50.0	46.5		ug/L		93	72 - 129
Benzo[a]pyrene	50.0	49.5		ug/L		99	62 - 136
Benzo[b]fluoranthene	50.0	43.6		ug/L		87	64 - 124
Benzo[g,h,i]perylene	50.0	48.9		ug/L		98	54 - 137
Benzo[k]fluoranthene	50.0	53.5		ug/L		107	67 - 132
Bis(2-chloroethoxy)methane	50.0	43.9		ug/L		88	67 - 120
Bis(2-chloroethyl)ether	50.0	38.9		ug/L		78	62 - 120
Bis(2-ethylhexyl) phthalate	50.0	44.8		ug/L		90	66 - 130
Butyl benzyl phthalate	50.0	39.7		ug/L		79	25 - 132
Caprolactam	50.0	9.74		ug/L		19	12 - 120
Carbazole	50.0	50.3		ug/L		101	74 - 120
Chrysene	50.0	50.7		ug/L		101	70 - 128
Di-n-butyl phthalate	50.0	48.9		ug/L		98	61 - 124
Di-n-octyl phthalate	50.0	44.4		ug/L		89	63 - 135
Dibenz(a,h)anthracene	50.0	47.0		ug/L		94	51 - 136
Dibenzofuran	50.0	49.0		ug/L		98	63 - 120
Diethyl phthalate	50.0	45.5		ug/L		91	44 - 131
Dimethyl phthalate	50.0	38.2		ug/L		76	10 - 135
Fluoranthene	50.0	49.0		ug/L		98	70 - 128
Fluorene	50.0	48.3		ug/L		97	66 - 120
Hexachlorobenzene	50.0	49.3		ug/L		99	65 - 120
Hexachlorobutadiene	50.0	36.7		ug/L		73	24 - 120
Hexachlorocyclopentadiene	50.0	22.7		ug/L		45	10 - 120
Hexachloroethane	50.0	32.6		ug/L		65	27 - 120
Indeno[1,2,3-cd]pyrene	50.0	44.5		ug/L		89	50 - 130
Isophorone	50.0	42.5		ug/L		85	70 - 120
N-Nitrosodi-n-propylamine	50.0	35.6		ug/L		71	63 - 120
N-Nitrosodiphenylamine	42.5	43.9		ug/L		103	72 - 120
Naphthalene	50.0	42.2		ug/L		84	55 - 120
Nitrobenzene	50.0	39.6		ug/L		79	59 - 120
Pentachlorophenol	100	111		ug/L		111	56 - 135
Phenanthrene	50.0	46.5		ug/L		93	66 - 120
Phenol	50.0	17.6		ug/L		35	22 - 120
Pyrene	50.0	48.6		ug/L		97	73 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*91*		*44 - 120*
2-Fluorophenol (Surr)	*46*		*10 - 120*
Nitrobenzene-d5 (Surr)	*73*		*25 - 125*
p-Terphenyl-d14 (Surr)	*107*		*37 - 120*
2,4,6-Tribromophenol (Surr)	*108*		*10 - 150*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-305886/2-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 305886

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Phenol-d5 (Surr)	*31*		*10 - 120*

Lab Sample ID: LCSD 410-305886/3-A
Matrix: Water
Analysis Batch: 306372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 305886

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1'-Biphenyl			50.0	45.4		ug/L		91	60 - 120	5	30
2,2'-oxybis[1-chloropropane]			50.0	36.2		ug/L		72	43 - 121	1	30
2,4,5-Trichlorophenol			50.0	49.9		ug/L		100	70 - 124	5	30
2,4,6-Trichlorophenol			50.0	47.9		ug/L		96	63 - 120	5	30
2,4-Dichlorophenol			50.0	44.6		ug/L		89	65 - 121	5	30
2,4-Dimethylphenol			50.0	41.8		ug/L		84	62 - 120	5	30
2,4-Dinitrophenol			100	84.3		ug/L		84	43 - 146	12	30
2,4-Dinitrotoluene			50.0	46.1		ug/L		92	71 - 124	9	30
2,6-Dinitrotoluene			50.0	48.6		ug/L		97	74 - 127	5	30
2-Chloronaphthalene			50.0	43.7		ug/L		87	56 - 120	7	30
2-Chlorophenol			50.0	36.5		ug/L		73	57 - 120	3	30
2-Methylnaphthalene			50.0	37.8		ug/L		76	53 - 120	5	30
2-Methylphenol			50.0	36.0		ug/L		72	58 - 120	4	30
2-Nitroaniline			50.0	47.0		ug/L		94	71 - 128	2	30
2-Nitrophenol			50.0	40.9		ug/L		82	68 - 122	1	30
3,3'-Dichlorobenzidine			100	84.6		ug/L		85	48 - 120	9	30
3-Nitroaniline			50.0	45.2		ug/L		90	56 - 120	3	30
4,6-Dinitro-2-methylphenol			100	91.6		ug/L		92	66 - 138	11	30
4-Bromophenyl phenyl ether			50.0	52.3		ug/L		105	66 - 120	2	30
4-Chloro-3-methylphenol			50.0	39.6		ug/L		79	63 - 128	1	30
4-Chloroaniline			50.0	37.5		ug/L		75	49 - 120	9	30
4-Chlorophenyl phenyl ether			50.0	47.1		ug/L		94	59 - 120	4	30
4-Methylphenol			50.0	33.5		ug/L		67	49 - 120	5	30
4-Nitroaniline			50.0	41.4		ug/L		83	63 - 121	7	30
4-Nitrophenol			100	48.2		ug/L		48	24 - 120	7	30
Acenaphthene			50.0	43.8		ug/L		88	59 - 120	5	30
Acenaphthylene			50.0	43.6		ug/L		87	67 - 120	6	30
Acetophenone			50.0	39.2		ug/L		78	66 - 120	1	30
Anthracene			50.0	46.1		ug/L		92	67 - 123	6	30
Atrazine			50.0	44.1		ug/L		88	59 - 142	5	30
Benzaldehyde			50.0	33.2		ug/L		66	42 - 129	3	30
Benzo[a]anthracene			50.0	44.2		ug/L		88	72 - 129	5	30
Benzo[a]pyrene			50.0	47.3		ug/L		95	62 - 136	5	30
Benzo[b]fluoranthene			50.0	44.6		ug/L		89	64 - 124	2	30
Benzo[g,h,i]perylene			50.0	48.4		ug/L		97	54 - 137	1	30
Benzo[k]fluoranthene			50.0	50.0		ug/L		100	67 - 132	7	30
Bis(2-chloroethoxy)methane			50.0	40.6		ug/L		81	67 - 120	8	30
Bis(2-chloroethyl)ether			50.0	38.7		ug/L		77	62 - 120	1	30
Bis(2-ethylhexyl) phthalate			50.0	43.9		ug/L		88	66 - 130	2	30
Butyl benzyl phthalate			50.0	35.6		ug/L		71	25 - 132	11	30
Caprolactam			50.0	10.2		ug/L		20	12 - 120	5	30

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-305886/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 306372 — **Prep Batch: 305886**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbazole	50.0	46.8		ug/L		94	74 - 120	7	30
Chrysene	50.0	47.6		ug/L		95	70 - 128	6	30
Di-n-butyl phthalate	50.0	45.3		ug/L		91	61 - 124	8	30
Di-n-octyl phthalate	50.0	44.2		ug/L		88	63 - 135	1	30
Dibenz(a,h)anthracene	50.0	47.9		ug/L		96	51 - 136	2	30
Dibenzofuran	50.0	46.5		ug/L		93	63 - 120	5	30
Diethyl phthalate	50.0	40.8		ug/L		82	44 - 131	11	30
Dimethyl phthalate	50.0	32.5		ug/L		65	10 - 135	16	30
Fluoranthene	50.0	45.2		ug/L		90	70 - 128	8	30
Fluorene	50.0	44.5		ug/L		89	66 - 120	8	30
Hexachlorobenzene	50.0	47.9		ug/L		96	65 - 120	3	30
Hexachlorobutadiene	50.0	36.4		ug/L		73	24 - 120	1	30
Hexachlorocyclopentadiene	50.0	21.0		ug/L		42	10 - 120	8	30
Hexachloroethane	50.0	32.0		ug/L		64	27 - 120	2	30
Indeno[1,2,3-cd]pyrene	50.0	44.8		ug/L		90	50 - 130	1	30
Isophorone	50.0	40.0		ug/L		80	70 - 120	6	30
N-Nitrosodi-n-propylamine	50.0	35.6		ug/L		71	63 - 120	0	30
N-Nitrosodiphenylamine	42.5	41.6		ug/L		98	72 - 120	5	30
Naphthalene	50.0	39.8		ug/L		80	55 - 120	6	30
Nitrobenzene	50.0	37.2		ug/L		74	59 - 120	6	30
Pentachlorophenol	100	104		ug/L		104	56 - 135	6	30
Phenanthrene	50.0	44.4		ug/L		89	66 - 120	5	30
Phenol	50.0	19.5		ug/L		39	22 - 120	10	30
Pyrene	50.0	46.7		ug/L		93	73 - 120	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*87*		*44 - 120*
2-Fluorophenol (Surr)	*50*		*10 - 120*
Nitrobenzene-d5 (Surr)	*69*		*25 - 125*
p-Terphenyl-d14 (Surr)	*103*		*37 - 120*
2,4,6-Tribromophenol (Surr)	*102*		*10 - 150*
Phenol-d5 (Surr)	*34*		*10 - 120*

Lab Sample ID: MB 410-308814/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309076 — **Prep Batch: 308814**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/20/22 15:50	10/21/22 09:45	1
Pyridine	ND		0.025	0.010	mg/L		10/20/22 15:50	10/21/22 09:45	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/20/22 15:50	10/21/22 09:45	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-308814/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309076 — **Prep Batch: 308814**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.010	0.0025	mg/L		10/20/22 15:50	10/21/22 09:45	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/20/22 15:50	10/21/22 09:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*85*		*44 - 120*	*10/20/22 15:50*	*10/21/22 09:45*	*1*
2-Fluorophenol (Surr)	*47*		*10 - 120*	*10/20/22 15:50*	*10/21/22 09:45*	*1*
Nitrobenzene-d5 (Surr)	*85*		*25 - 125*	*10/20/22 15:50*	*10/21/22 09:45*	*1*
p-Terphenyl-d14 (Surr)	*103*		*37 - 120*	*10/20/22 15:50*	*10/21/22 09:45*	*1*
2,4,6-Tribromophenol (Surr)	*79*		*10 - 150*	*10/20/22 15:50*	*10/21/22 09:45*	*1*
Phenol-d5 (Surr)	*36*		*10 - 120*	*10/20/22 15:50*	*10/21/22 09:45*	*1*

Lab Sample ID: LCS 410-308814/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309076 — **Prep Batch: 308814**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	0.250	0.202		mg/L		81	40 - 120
2,4,5-Trichlorophenol	0.250	0.243		mg/L		97	70 - 124
2,4,6-Trichlorophenol	0.250	0.238		mg/L		95	63 - 120
2,4-Dinitrotoluene	0.250	0.258		mg/L		103	71 - 124
Pyridine	0.500	0.270		mg/L		54	23 - 120
2-Methylphenol	0.250	0.213		mg/L		85	58 - 120
4-Methylphenol	0.250	0.210		mg/L		84	49 - 120
Hexachlorobenzene	0.250	0.227		mg/L		91	65 - 120
Hexachlorobutadiene	0.250	0.186		mg/L		74	24 - 120
Hexachloroethane	0.250	0.186		mg/L		74	27 - 120
Nitrobenzene	0.250	0.234		mg/L		94	59 - 120
Pentachlorophenol	0.500	0.462		mg/L		92	56 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*87*		*44 - 120*
2-Fluorophenol (Surr)	*54*		*10 - 120*
Nitrobenzene-d5 (Surr)	*87*		*25 - 125*
p-Terphenyl-d14 (Surr)	*97*		*37 - 120*
2,4,6-Tribromophenol (Surr)	*85*		*10 - 150*
Phenol-d5 (Surr)	*43*		*10 - 120*

Lab Sample ID: LCSD 410-308814/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309076 — **Prep Batch: 308814**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.250	0.188		mg/L		75	40 - 120	7	30
2,4,5-Trichlorophenol	0.250	0.238		mg/L		95	70 - 124	2	30
2,4,6-Trichlorophenol	0.250	0.239		mg/L		95	63 - 120	0	30
2,4-Dinitrotoluene	0.250	0.251		mg/L		101	71 - 124	3	30
Pyridine	0.500	0.234		mg/L		47	23 - 120	14	30
2-Methylphenol	0.250	0.207		mg/L		83	58 - 120	3	30

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-308814/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309076 — **Prep Batch: 308814**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Methylphenol	0.250	0.204		mg/L		82	49 - 120	3	30
Hexachlorobenzene	0.250	0.213		mg/L		85	65 - 120	6	30
Hexachlorobutadiene	0.250	0.180		mg/L		72	24 - 120	3	30
Hexachloroethane	0.250	0.175		mg/L		70	27 - 120	6	30
Nitrobenzene	0.250	0.237		mg/L		95	59 - 120	1	30
Pentachlorophenol	0.500	0.453		mg/L		91	56 - 135	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*86*		*44 - 120*
2-Fluorophenol (Surr)	*52*		*10 - 120*
Nitrobenzene-d5 (Surr)	*88*		*25 - 125*
p-Terphenyl-d14 (Surr)	*97*		*37 - 120*
2,4,6-Tribromophenol (Surr)	*84*		*10 - 150*
Phenol-d5 (Surr)	*41*		*10 - 120*

Method: T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13

Lab Sample ID: MB 410-307602/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 309199 — **Prep Batch: 307602**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	4.2	ng/L		10/18/22 07:26	10/21/22 13:35	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		10/18/22 07:26	10/21/22 13:35	1
NEtFOSAA	ND		3.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
NMeFOSAA	ND		2.0	0.60	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorohexanoic acid	ND		2.0	0.90	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorooctanesulfonamide	ND		2.0	0.70	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorooctanesulfonic acid	ND		2.0	1.0	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		10/18/22 07:26	10/21/22 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*110*		*10 - 200*	*10/18/22 07:26*	*10/21/22 13:35*	*1*

Method: T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13 (Continued)

Lab Sample ID: MB 410-307602/1-A
Matrix: Water
Analysis Batch: 309199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307602

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	106		17 - 200	10/18/22 07:26	10/21/22 13:35	1
M2-8:2 FTS	111		33 - 200	10/18/22 07:26	10/21/22 13:35	1
13C2 PFTeDA	90		10 - 179	10/18/22 07:26	10/21/22 13:35	1
13C3 PFBS	92		16 - 200	10/18/22 07:26	10/21/22 13:35	1
13C4 PFBA	104		42 - 165	10/18/22 07:26	10/21/22 13:35	1
13C4 PFHpA	106		31 - 182	10/18/22 07:26	10/21/22 13:35	1
13C5 PFPeA	124		38 - 187	10/18/22 07:26	10/21/22 13:35	1
13C8 PFOA	106		48 - 162	10/18/22 07:26	10/21/22 13:35	1
13C8 PFOS	113		51 - 159	10/18/22 07:26	10/21/22 13:35	1
d3-NMeFOSAA	121		31 - 174	10/18/22 07:26	10/21/22 13:35	1
d5-NEtFOSAA	116		29 - 195	10/18/22 07:26	10/21/22 13:35	1
13C3 PFHxS	98		28 - 188	10/18/22 07:26	10/21/22 13:35	1
13C5 PFHxA	103		24 - 179	10/18/22 07:26	10/21/22 13:35	1
13C6 PFDA	103		49 - 163	10/18/22 07:26	10/21/22 13:35	1
13C7 PFUnA	105		34 - 174	10/18/22 07:26	10/21/22 13:35	1
13C8 FOSA	88		10 - 168	10/18/22 07:26	10/21/22 13:35	1
13C2-PFDoDA	84		17 - 176	10/18/22 07:26	10/21/22 13:35	1
13C9 PFNA	119		51 - 167	10/18/22 07:26	10/21/22 13:35	1

Lab Sample ID: LCS 410-307602/2-A
Matrix: Water
Analysis Batch: 309199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 Fluorotelomer sulfonic acid	23.9	22.7		ng/L		95	55 - 139
6:2 Fluorotelomer sulfonic acid	24.3	22.7		ng/L		93	28 - 173
8:2 Fluorotelomer sulfonic acid	24.5	22.8		ng/L		93	55 - 138
NEtFOSAA	25.6	27.1		ng/L		106	55 - 134
NMeFOSAA	25.6	23.8		ng/L		93	59 - 140
Perfluorobutanesulfonic acid	22.7	24.3		ng/L		107	53 - 138
Perfluorobutanoic acid	25.6	26.5		ng/L		103	59 - 136
Perfluorodecanesulfonic acid	24.7	21.9		ng/L		89	55 - 137
Perfluorodecanoic acid	25.6	26.4		ng/L		103	56 - 138
Perfluorododecanoic acid	25.6	24.2		ng/L		95	59 - 143
Perfluoroheptanesulfonic acid	24.4	24.0		ng/L		98	56 - 140
Perfluoroheptanoic acid	25.6	24.9		ng/L		97	59 - 145
Perfluorohexanesulfonic acid	23.3	23.0		ng/L		98	58 - 134
Perfluorohexanoic acid	25.6	23.9		ng/L		93	58 - 139
Perfluorononanesulfonic acid	24.6	23.3		ng/L		95	59 - 136
Perfluorononanoic acid	25.6	25.5		ng/L		100	61 - 139
Perfluorooctanesulfonamide	25.6	29.2		ng/L		114	43 - 167
Perfluorooctanesulfonic acid	23.7	23.0		ng/L		97	45 - 150
Perfluorooctanoic acid	25.6	27.0		ng/L		106	51 - 145
Perfluoropentanesulfonic acid	24.0	25.6		ng/L		106	55 - 140
Perfluoropentanoic acid	25.6	25.4		ng/L		99	57 - 141
Perfluorotetradecanoic acid	25.6	24.6		ng/L		96	62 - 139
Perfluorotridecanoic acid	25.6	25.4		ng/L		99	58 - 146
Perfluoroundecanoic acid	25.6	25.5		ng/L		100	60 - 141

Method: T-WI14355 r13 - SOP(00037) T-PFAS-WI14355 Rev.13 (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	98		10 - 200
M2-6:2 FTS	96		17 - 200
M2-8:2 FTS	97		33 - 200
13C2 PFTeDA	76		10 - 179
13C3 PFBS	83		16 - 200
13C4 PFBA	89		42 - 165
13C4 PFHpA	89		31 - 182
13C5 PFPeA	97		38 - 187
13C8 PFOA	84		48 - 162
13C8 PFOS	97		51 - 159
d3-NMeFOSAA	110		31 - 174
d5-NEtFOSAA	104		29 - 195
13C3 PFHxS	84		28 - 188
13C5 PFHxA	85		24 - 179
13C6 PFDA	93		49 - 163
13C7 PFUnA	88		34 - 174
13C8 FOSA	75		10 - 168
13C2-PFDoDA	82		17 - 176
13C9 PFNA	92		51 - 167

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 410-305865/1-A
Matrix: Water
Analysis Batch: 309230

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 305865

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		25	12	ug/L		10/12/22 15:12	10/21/22 12:20	1
Antimony	ND		1.0	0.20	ug/L		10/12/22 15:12	10/21/22 12:20	1
Arsenic	ND		2.0	0.68	ug/L		10/12/22 15:12	10/21/22 12:20	1
Barium	ND		2.0	0.75	ug/L		10/12/22 15:12	10/21/22 12:20	1
Beryllium	ND		0.50	0.12	ug/L		10/12/22 15:12	10/21/22 12:20	1
Cadmium	ND		0.50	0.15	ug/L		10/12/22 15:12	10/21/22 12:20	1
Calcium	ND		100	50	ug/L		10/12/22 15:12	10/21/22 12:20	1
Chromium	ND		2.0	0.33	ug/L		10/12/22 15:12	10/21/22 12:20	1
Cobalt	ND		0.50	0.16	ug/L		10/12/22 15:12	10/21/22 12:20	1
Copper	ND		1.0	0.36	ug/L		10/12/22 15:12	10/21/22 12:20	1
Iron	ND		50	20	ug/L		10/12/22 15:12	10/21/22 12:20	1
Lead	ND		0.50	0.071	ug/L		10/12/22 15:12	10/21/22 12:20	1
Magnesium	ND		50	16	ug/L		10/12/22 15:12	10/21/22 12:20	1
Manganese	ND		2.0	0.95	ug/L		10/12/22 15:12	10/21/22 12:20	1
Nickel	ND		1.0	0.40	ug/L		10/12/22 15:12	10/21/22 12:20	1
Potassium	ND		200	65	ug/L		10/12/22 15:12	10/21/22 12:20	1
Selenium	ND		1.0	0.28	ug/L		10/12/22 15:12	10/21/22 12:20	1
Silver	ND		0.50	0.10	ug/L		10/12/22 15:12	10/21/22 12:20	1
Sodium	ND		200	90	ug/L		10/12/22 15:12	10/21/22 12:20	1
Thallium	ND		0.50	0.13	ug/L		10/12/22 15:12	10/21/22 12:20	1
Zinc	ND		10	4.0	ug/L		10/12/22 15:12	10/21/22 12:20	1
Vanadium	ND		4.0	0.79	ug/L		10/12/22 15:12	10/21/22 12:20	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-305865/2-A
Matrix: Water
Analysis Batch: 309230

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 305865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	5000	4940		ug/L		99	87 - 119
Antimony	100	100		ug/L		100	80 - 120
Arsenic	500	485		ug/L		97	85 - 120
Barium	500	515		ug/L		103	80 - 120
Beryllium	50.0	48.8		ug/L		98	90 - 112
Cadmium	50.0	51.2		ug/L		102	86 - 113
Calcium	5000	4720		ug/L		94	85 - 120
Chromium	500	488		ug/L		98	90 - 115
Cobalt	500	464		ug/L		93	90 - 113
Copper	500	475		ug/L		95	80 - 120
Iron	5000	4900		ug/L		98	88 - 119
Lead	50.0	49.3		ug/L		99	90 - 115
Magnesium	5000	4880		ug/L		98	90 - 112
Manganese	500	494		ug/L		99	89 - 120
Nickel	500	490		ug/L		98	90 - 114
Potassium	5000	4930		ug/L		99	90 - 112
Selenium	100	97.0		ug/L		97	80 - 120
Silver	50.0	51.5		ug/L		103	88 - 113
Sodium	5000	4910		ug/L		98	89 - 112
Thallium	100	99.9		ug/L		100	80 - 120
Zinc	500	504		ug/L		101	90 - 115
Vanadium	500	492		ug/L		98	90 - 115

Lab Sample ID: MB 410-306570/1-A
Matrix: Water
Analysis Batch: 308007

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 306570

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	6.8	ug/L		10/14/22 06:53	10/18/22 16:05	1
Barium	ND		20	7.5	ug/L		10/14/22 06:53	10/18/22 16:05	1
Cadmium	ND		5.0	1.5	ug/L		10/14/22 06:53	10/18/22 16:05	1
Chromium	ND		20	3.3	ug/L		10/14/22 06:53	10/18/22 16:05	1
Copper	ND		10	3.6	ug/L		10/14/22 06:53	10/18/22 16:05	1
Lead	ND		5.0	0.71	ug/L		10/14/22 06:53	10/18/22 16:05	1
Nickel	ND		10	4.0	ug/L		10/14/22 06:53	10/18/22 16:05	1
Selenium	ND		10	2.8	ug/L		10/14/22 06:53	10/18/22 16:05	1
Silver	ND		5.0	1.0	ug/L		10/14/22 06:53	10/18/22 16:05	1
Zinc	ND		100	40	ug/L		10/14/22 06:53	10/18/22 16:05	1

Lab Sample ID: LCS 410-306570/2-A
Matrix: Water
Analysis Batch: 308007

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 306570

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	5000	4950		ug/L		99	85 - 120
Barium	5000	5260		ug/L		105	80 - 120
Cadmium	500	539		ug/L		108	86 - 113
Chromium	5000	5190		ug/L		104	90 - 115
Copper	5000	5070		ug/L		101	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-306570/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 308007 — **Prep Batch: 306570**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	500	507		ug/L		101	90 - 115
Nickel	5000	5020		ug/L		100	90 - 114
Selenium	1000	1030		ug/L		103	80 - 120
Silver	500	514		ug/L		103	88 - 113
Zinc	5000	5170		ug/L		103	90 - 115

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-305525/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 306012 — **Prep Batch: 305525**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/11/22 21:08	10/12/22 17:37	1

Lab Sample ID: LCS 410-305525/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 306012 — **Prep Batch: 305525**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.949		ug/L		95	80 - 118

Lab Sample ID: MB 410-306580/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 306875 — **Prep Batch: 306580**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/14/22 07:17	10/14/22 13:36	1

Lab Sample ID: LCS 410-306580/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 306875 — **Prep Batch: 306580**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	1.05		ug/L		105	80 - 118

Method: 1010B - Ignitability, Pensky-Martens Closed-Cup Method

Lab Sample ID: LCS 410-307860/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 307860

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Flashpoint	81.0	79.0		Degrees F		98	96.9 - 103.1

Method: 1010B - Ignitability, Pensky-Martens Closed-Cup Method (Continued)

Lab Sample ID: LCSD 410-307860/2 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 307860

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Flashpoint	81.0	83.0	*1	Degrees F		102	96.9 - 103.1	5	4

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 410-305627/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 305808 — **Prep Batch: 305627**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		60	20	mg/Kg		10/12/22 08:11	10/12/22 11:42	1

Lab Sample ID: LCS 410-305627/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 305808 — **Prep Batch: 305627**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Reactive	1000	ND		mg/Kg		2	0 - 5.14

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-305627/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 305743 — **Prep Batch: 305627**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		10/12/22 08:11	10/12/22 11:27	1

Lab Sample ID: LCS 410-305627/25-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 305743 — **Prep Batch: 305627**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide, Reactive	539	409		mg/Kg		76	56 - 104

Method: 9040C - pH

Lab Sample ID: LCS 410-307402/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 307402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		S.U.		100	95 - 105

Method: SM 2710F - Specific Gravity

Lab Sample ID: 410-101014-1 DU
Matrix: Water
Analysis Batch: 306913

Client Sample ID: IDW-AQ
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Gravity	1.0	!		0.996		NONE				0.1	3

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

GC/MS VOA

Leach Batch: 304558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	1311	
410-101014-1 MS	IDW-AQ	TCLP	Water	1311	

Analysis Batch: 307990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	8260D	
410-101014-2	Trip Blank	Total/NA	Water	8260D	
MB 410-307990/6	Method Blank	Total/NA	Water	8260D	
LCS 410-307990/4	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 308764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	8260D	304558
MB 410-308764/6	Method Blank	Total/NA	Water	8260D	
LCS 410-308764/4	Lab Control Sample	Total/NA	Water	8260D	
410-101014-1 MS	IDW-AQ	TCLP	Water	8260D	304558

GC/MS Semi VOA

Prep Batch: 305886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	3510C	
MB 410-305886/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-305886/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-305886/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Leach Batch: 306095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	1311	

Analysis Batch: 306372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	8270E	305886
MB 410-305886/1-A	Method Blank	Total/NA	Water	8270E	305886
LCS 410-305886/2-A	Lab Control Sample	Total/NA	Water	8270E	305886
LCSD 410-305886/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	305886

Prep Batch: 308814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	3510C	306095
MB 410-308814/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-308814/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-308814/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 309076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	8270E	308814
MB 410-308814/1-A	Method Blank	Total/NA	Water	8270E	308814
LCS 410-308814/2-A	Lab Control Sample	Total/NA	Water	8270E	308814
LCSD 410-308814/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	308814

LCMS

Prep Batch: 307602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	537 IDA	
MB 410-307602/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-307602/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Analysis Batch: 309199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	T-WI14355 r13	307602
MB 410-307602/1-A	Method Blank	Total/NA	Water	T-WI14355 r13	307602
LCS 410-307602/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r13	307602

Metals

Prep Batch: 305525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	7470A	
MB 410-305525/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-305525/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 305865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total Recoverable	Water	3005A	
MB 410-305865/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-305865/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 306012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	7470A	305525
MB 410-305525/1-A	Method Blank	Total/NA	Water	7470A	305525
LCS 410-305525/2-A	Lab Control Sample	Total/NA	Water	7470A	305525

Leach Batch: 306095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	1311	

Prep Batch: 306570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	3005A	306095
MB 410-306570/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-306570/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 306580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	7470A	306095
MB 410-306580/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-306580/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 306875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	7470A	306580
MB 410-306580/1-A	Method Blank	Total/NA	Water	7470A	306580
LCS 410-306580/2-A	Lab Control Sample	Total/NA	Water	7470A	306580

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Metals

Analysis Batch: 308007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	TCLP	Water	6020B	306570
MB 410-306570/1-A	Method Blank	Total Recoverable	Water	6020B	306570
LCS 410-306570/2-A	Lab Control Sample	Total Recoverable	Water	6020B	306570

Analysis Batch: 309230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total Recoverable	Water	6020B	305865
MB 410-305865/1-A	Method Blank	Total Recoverable	Water	6020B	305865
LCS 410-305865/2-A	Lab Control Sample	Total Recoverable	Water	6020B	305865

Analysis Batch: 315451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total Recoverable	Water	6020B	305865
410-101014-1	IDW-AQ	Total Recoverable	Water	6020B	305865

Analysis Batch: 319090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total Recoverable	Water	6020B	305865

General Chemistry

Prep Batch: 305627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	7.3.4	
MB 410-305627/1-A	Method Blank	Total/NA	Water	7.3.4	
LCS 410-305627/25-A	Lab Control Sample	Total/NA	Water	7.3.4	
LCS 410-305627/2-A	Lab Control Sample	Total/NA	Water	7.3.4	

Analysis Batch: 305743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	9034	305627
MB 410-305627/1-A	Method Blank	Total/NA	Water	9034	305627
LCS 410-305627/25-A	Lab Control Sample	Total/NA	Water	9034	305627

Analysis Batch: 305808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	9012	305627
MB 410-305627/1-A	Method Blank	Total/NA	Water	9012	305627
LCS 410-305627/2-A	Lab Control Sample	Total/NA	Water	9012	305627

Analysis Batch: 306913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	SM 2710F	
410-101014-1 DU	IDW-AQ	Total/NA	Water	SM 2710F	

Analysis Batch: 307402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	9040C	
LCS 410-307402/1	Lab Control Sample	Total/NA	Water	9040C	

QC Association Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

General Chemistry

Analysis Batch: 307860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-101014-1	IDW-AQ	Total/NA	Water	1010B	
LCS 410-307860/1	Lab Control Sample	Total/NA	Water	1010B	
LCSD 410-307860/2	Lab Control Sample Dup	Total/NA	Water	1010B	

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Client Sample ID: IDW-AQ

Lab Sample ID: 410-101014-1

Date Collected: 10/05/22 18:45
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			304558	CZ7N	ELLE	10/09/22 14:50 - 10/09/22 16:05 [1]
TCLP	Analysis	8260D		20	308764	UJML	ELLE	10/20/22 22:25
Total/NA	Analysis	8260D		1	307990	K4WN	ELLE	10/19/22 05:28
TCLP	Leach	1311			306095	UNWS	ELLE	10/13/22 15:00 - 10/13/22 17:00 [1]
TCLP	Prep	3510C			308814	ZB3H	ELLE	10/20/22 15:50
TCLP	Analysis	8270E		1	309076	SJ89	ELLE	10/21/22 15:19
Total/NA	Prep	3510C			305886	ZB3H	ELLE	10/12/22 15:41
Total/NA	Analysis	8270E		1	306372	P7EB	ELLE	10/14/22 02:00
Total/NA	Prep	537 IDA			307602	PR5J	ELLE	10/18/22 07:26
Total/NA	Analysis	T-WI14355 r13		1	309199	MT26	ELLE	10/21/22 17:39
TCLP	Leach	1311			306095	UNWS	ELLE	10/13/22 15:00 - 10/13/22 17:00 [1]
TCLP	Prep	3005A			306570	UAMX	ELLE	10/14/22 06:53
TCLP	Analysis	6020B		1	308007	UCIG	ELLE	10/18/22 17:06
Total Recoverable	Prep	3005A			305865	UAMX	ELLE	10/12/22 15:12
Total Recoverable	Analysis	6020B		1	315451	UCIG	ELLE	11/08/22 19:39
Total Recoverable	Prep	3005A			305865	UAMX	ELLE	10/12/22 15:12
Total Recoverable	Analysis	6020B		10	315451	UCIG	ELLE	11/08/22 19:41
Total Recoverable	Prep	3005A			305865	UAMX	ELLE	10/12/22 15:12
Total Recoverable	Analysis	6020B		1	319090	F7JF	ELLE	11/18/22 09:08
Total Recoverable	Prep	3005A			305865	UAMX	ELLE	10/12/22 15:12
Total Recoverable	Analysis	6020B		1	309230	S4PD	ELLE	10/21/22 12:59
TCLP	Leach	1311			306095	UNWS	ELLE	10/13/22 15:00 - 10/13/22 17:00 [1]
TCLP	Prep	7470A			306580	UAMX	ELLE	10/14/22 07:17
TCLP	Analysis	7470A		1	306875	UEFS	ELLE	10/14/22 14:31
Total/NA	Prep	7470A			305525	UAMX	ELLE	10/11/22 21:08
Total/NA	Analysis	7470A		1	306012	UEFS	ELLE	10/12/22 18:28
Total/NA	Analysis	1010B		1	307860	DI9Q	ELLE	10/18/22 14:10 - 10/18/22 14:10 [1]
Total/NA	Prep	7.3.4			305627	USAE	ELLE	10/12/22 08:11
Total/NA	Analysis	9012		1	305808	JCG7	ELLE	10/12/22 12:06
Total/NA	Prep	7.3.4			305627	USAE	ELLE	10/12/22 08:11
Total/NA	Analysis	9034		1	305743	USAE	ELLE	10/12/22 11:27
Total/NA	Analysis	9040C		1	307402	F8TI	ELLE	10/17/22 14:17
Total/NA	Analysis	SM 2710F		1	306913	DI9Q	ELLE	10/14/22 18:35

Client Sample ID: Trip Blank

Lab Sample ID: 410-101014-2

Date Collected: 10/05/22 00:00
Matrix: Water
Date Received: 10/07/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	307990	K4WN	ELLE	10/19/22 01:26

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

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	01-31-23

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
9012	7.3.4	Water	Cyanide, Reactive
9034	7.3.4	Water	Sulfide, Reactive
9040C		Water	Corrosivity
9040C		Water	Temperature
SM 2710F		Water	Specific Gravity

Method Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
T-WI14355 r13	SOP(00037) T-PFAS-WI14355 Rev.13	ELLE - Lancaster	ELLE
6020B	Metals (ICP/MS)	SW846	ELLE
7470A	Mercury (CVAA)	SW846	ELLE
1010B	Ignitability, Pensky-Martens Closed-Cup Method	SW846	ELLE
9012	Cyanide, Reactive	SW846	ELLE
9034	Sulfide, Reactive	SW846	ELLE
9040C	pH	SW846	ELLE
SM 2710F	Specific Gravity	SM	ELLE
1311	TCLP Extraction	SW846	ELLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
7.3.3	Cyanide, Reactive	SW846	ELLE
7.3.4	Sulfide, Reactive	SW846	ELLE
7470A	Preparation, Mercury	SW846	ELLE

Protocol References:

ELLE - Lancaster = Eurofins Lancaster, Facility Standard Operating Procedure.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Sample Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-101014-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-101014-1	IDW-AQ	Water	10/05/22 18:45	10/07/22 10:10
410-101014-2	Trip Blank	Water	10/05/22 00:00	10/07/22 10:10

410-101014 Chain of Custody

ronme

Chain of Custody Record

eurofins Environment Testing America

Sampler: Brad Mikula	Lab PM: Zanar, Elizabeth M	Carrier Tracking No(s):	COC No: 410-65237-18744.1
Phone: 814-241-5054	E-Mail: Elizabeth.Zanar@et.eurofinsus.com	State of Origin: PA	Page: Page 1 of 2
Mr. Chris Kupfer			
Company: Michael Baker International, Inc.	PWSID:		Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard		
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: ckupfer@mbakerintl.com	WO #:		
Project Name: Saegertown PFAS Site	Project #: 41012247		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	8270E - TCL SVOCs	9012_ReactiveCN - Reactive CN	9034_Reactive - Reactive Sulfide	1010B, 9040C, SM2710F_Calc	6020B, 7470A	6020B, 7470A	8260D - TCL VOCs	8270E - TCLP - SVOCs 8270	8260D - TCLP - VOCs 8260	Total Number of containers	Special Instructions/Note:
					N	N	N	N	D	A	N	N			
IDW-AQ	10/5/22	1845	G	Water	N	N	X	X	X	X	X	X	X	X	
Trip Blank	↓	—	G	Water							X				

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
Edwin Hernandez	9/26/22 10:30				
B. Mikula	10/6/22 1000	MBI			
				10/7/22 1010	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.2, 5.6

Ver: 06/08/2021

11/21/2022

Eurofins Lancaster Laboratories Environme
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-656-2300 Fax: 717-656-2681

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Brad Mikula	Lab PM: Zanar, Elizabeth M	Carrier Tracking No(s):	COC No: 410-65242-18747.5
Client Contact: Mr. Chris Kupfer	Phone: 814-247-5054	E-Mail: Elizabeth.Zanar@et.eurofinsus.com	State of Origin: PA	Page: Page 2 of 2
Company: Michael Baker International, Inc.	PWSID:			Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard			
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: ckupfer@mbakerintl.com	WO #:			
Project Name: Saegertown PFAS Site	Project #: 41012247			
Site: Saegertown 189432	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

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)	537_IDA_TOPS - TOP (Post-Ox) 24 PFAS	CIC_Fluorine - Absorbable Organic Fluorine	PFC_IDA - 24 PFAS	Total Number of containers	Special Instructions/Note:
							N		N		
IDW-AQ	10/5/22	1845	G	Water					X		
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

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	10/6/22 1000	MBI			
				10/7/22 1010	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.2, 5.6

Ver: 06/08/2021

11-

Login Sample Receipt Checklist

Client: Michael Baker International, Inc.

Job Number: 410-101014-1

Login Number: 101014
List Number: 1
Creator: Miller, Wesley R

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

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.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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.	True	
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.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	False	Headspace greater than 6mm in diameter in some but not all containers

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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11/21/2022 6:58:14 AM

Authorized for release by
Elizabeth Zanar, Project Manager
Elizabeth.Zanar@et.eurofinsus.com
(717)556-7290

Eurofins Lancaster Laboratories Environment Testing, LLC

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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Elizabeth M. Zanar

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 12/9/2022 1:23:46 PM

JOB DESCRIPTION

Saegertown PFAS Site

JOB NUMBER

410-100723-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

my EOL

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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12/9/2022 1:23:46 PM

Authorized for release by
Elizabeth Zanar, Project Manager
Elizabeth.Zanar@et.eurofinsus.com
(717)556-7290

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.

Elizabeth M. Zanar

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Qualifiers

LCMS

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
B	Analyte was found in the blank.
cn	Refer to Case Narrative for further detail
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

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
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
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

Job ID: 410-100723-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-100723-1

Receipt
The samples were received on 10/6/2022 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.7°C and 2.8°C

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

PFAS
Method 537_IDA_TOPS: Target analyte: Perfluorooctanoic acid was detected in the method blank associated with post oxidation samples: PW-2 (410-100723-1), PW-1 (410-100723-2), PW-7 (410-100723-3), PW-7 DUP (410-100723-4), PW-6 (410-100723-5), SBW (410-100723-6) and FB-1 (410-100723-7). No further action was taken.

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

Detection Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: PW-2

Lab Sample ID: 410-100723-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	12		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	3.5	J	4.5	1.8	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	2.7		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	2.6		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	66		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	7.8		1.8	0.81	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	2.8		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	23	I	1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	4.6		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	12		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	4.8		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	11	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	15	J !	25	10	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanoic acid	3.3	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	60	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	14	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	23	I !	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	8.7	J I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	10	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	11	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	2.4	!	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	11	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	5.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	5.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.66	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	4.1	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	26	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	3.5	J	4.5	1.8	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	4.8		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	7.8		1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	2.6		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-2 (Continued) — Lab Sample ID: 410-100723-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFOA	4.6		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	2.8		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	26	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFBA	15	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	11	!	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	14	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	3.3	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	8.7	J I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	52	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: PW-1 — Lab Sample ID: 410-100723-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	2.4		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	1.9	J	4.5	1.8	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	0.97	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	1.1	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	1.8		1.8	0.81	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	1.0	J	1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	2.7		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	0.52	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	3.3		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	8.7	J I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	6.7	J I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	6.0	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.2	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	2.7	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	6.9	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	4.0	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	11	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	1.9	J	4.5	1.8	ng/L	1		Total PFCA-Sum	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-1 (Continued) — Lab Sample ID: 410-100723-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFPA	3.3		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	1.8		1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	0.97	J	1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	2.7		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	11	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	6.0	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	8.7	J I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	6.7	J I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	21	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: PW-7 — Lab Sample ID: 410-100723-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	9.6		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	3.0	J	4.4	1.8	ng/L	1		537 IDA	Pre-Treatment
Perfluorodecanoic acid	0.54	J	1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	9.5		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	3.2		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	110		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	9.4		1.8	0.80	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	2.1		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	290		1.8	0.89	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	7.9		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	15		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	4.1		1.8	0.44	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	9.4	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	22	J !	25	10	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanesulfonic acid	5.5	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanoic acid	4.7	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	110	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	100	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-7 (Continued) — Lab Sample ID: 410-100723-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	280	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	11	I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	12	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	23	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.3	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	19	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	19	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	95	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	1.6	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	3.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	130	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	3.0	J	4.4	1.8	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	4.1		1.8	0.44	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	9.4		1.8	0.80	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	3.2		1.8	0.44	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	7.9		1.8	0.44	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	2.1		1.8	0.44	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	30	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFBA	22	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	23	!	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	100	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	4.7	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	11	I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	160	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: PW-7 DUP — Lab Sample ID: 410-100723-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	10		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	3.0	J	4.5	1.8	ng/L	1		537 IDA	Pre-Treatment
Perfluorodecanoic acid	0.53	J	1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	8.7		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	3.2		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-7 DUP (Continued)

Lab Sample ID: 410-100723-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid	110		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	8.9		1.8	0.81	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	2.0		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	290		1.8	0.91	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	7.9		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	15		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	3.4		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	9.3	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	23	J !	25	10	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanesulfonic acid	5.6	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanoic acid	4.7	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	100	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	110	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	270	!	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	12	I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	13	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	24	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Adsorbable Organic Fluorine (AOF)	1.3	J !	2.0	1.0	ug/L	1		ELLE SOP	Total/NA
PFBA	20	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	20	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	98	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	1.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	4.3	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	150	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	3.0	J	4.5	1.8	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	3.4		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	8.9		1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	3.2		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	7.9		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	2.0		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	28	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-7 DUP (Continued) — Lab Sample ID: 410-100723-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFBA	23	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	24	!	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	110	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	4.7	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	12	I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	170	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: PW-6 — Lab Sample ID: 410-100723-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.75	J	1.7	0.43	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	2.4	J	4.3	1.7	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	2.1		1.7	0.43	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	0.84	J	1.7	0.43	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	4.1		1.7	0.78	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	4.9		1.7	0.87	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	0.92	J	1.7	0.43	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	7.4		1.7	0.43	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	9.2	J I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	5.5	J !	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	4.7	J I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	9.7	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	2.3	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	5.1	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	3.8	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	6.7	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	2.4	J	4.3	1.7	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	7.4		1.7	0.43	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	4.1		1.7	0.78	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	2.1		1.7	0.43	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	0.92	J	1.7	0.43	ng/L	1		Total PFCA-Sum	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: PW-6 (Continued) — Lab Sample ID: 410-100723-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total PFCA	17	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	9.7	J !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	9.2	J I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	4.7	J I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	24	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: SBW — Lab Sample ID: 410-100723-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	9.0		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanoic acid	3.0	J	4.5	1.8	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanesulfonic acid	3.2		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoroheptanoic acid	2.8		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanesulfonic acid	65		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorohexanoic acid	9.1		1.8	0.81	ng/L	1		537 IDA	Pre-Treatment
Perfluorononanoic acid	6.7		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanesulfonic acid	16	I	1.8	0.90	ng/L	1		537 IDA	Pre-Treatment
Perfluorooctanoic acid	5.6		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanesulfonic acid	9.5		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluoropentanoic acid	4.9		1.8	0.45	ng/L	1		537 IDA	Pre-Treatment
Perfluorobutanesulfonic acid	8.5	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorobutanoic acid	16	J !	25	10	ng/L	1		537 TOP	Post-Treatment
Perfluoroheptanoic acid	3.0	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanesulfonic acid	64	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorohexanoic acid	30	I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorononanoic acid	5.7	J I !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanesulfonic acid	16	I !	10	5.0	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	9.1	J I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanesulfonic acid	9.2	J !	10	2.5	ng/L	1		537 TOP	Post-Treatment
Perfluoropentanoic acid	13	!	10	2.5	ng/L	1		537 TOP	Post-Treatment
PFBA	13	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	8.0	!			ng/L	1		Total PFCA-Dif	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SBW (Continued) — Lab Sample ID: 410-100723-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PFHxA	21	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.24	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	3.5	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	45	!			ng/L	1		Total PFCA-Dif	Total/NA
PFBA	3.0	J	4.5	1.8	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFPA	4.9		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHxA	9.1		1.8	0.81	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFHpA	2.8		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFOA	5.6		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFNA	6.7		1.8	0.45	ng/L	1		Total PFCA-Sum	Pre-Treatment
Total PFCA	32	J !	500	0.50	ng/L	1		Total PFCA-Sum	Pre-Treatment
PFBA	16	J !	25	10	ng/L	1		Total PFCA-Sum	Post-Treatment
PFPA	13	!	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHxA	30	I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFHpA	3.0	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	9.1	J I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFNA	5.7	J I !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	77	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

Client Sample ID: FB-1 — Lab Sample ID: 410-100723-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	8.0	J I !	10	4.5	ng/L	1		537 TOP	Post-Treatment
Perfluorooctanoic acid	3.3	J I B ! cn	10	2.5	ng/L	1		537 TOP	Post-Treatment
PFBA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFPA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	8.0	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHpA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
PFOA	3.3	!			ng/L	1		Total PFCA-Dif	Total/NA
PFNA	0.00	!			ng/L	1		Total PFCA-Dif	Total/NA
Total PFCA	11	!			ng/L	1		Total PFCA-Dif	Total/NA
PFHxA	8.0	J I !	10	4.5	ng/L	1		Total PFCA-Sum	Post-Treatment
PFOA	3.3	J I B !	10	2.5	ng/L	1		Total PFCA-Sum	Post-Treatment
Total PFCA	11	J !	500	0.50	ng/L	1		Total PFCA-Sum	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: PW-2

Date Collected: 10/04/22 10:00
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-1

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 01:06	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 01:06	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorobutanesulfonic acid	**12**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorobutanoic acid	**3.5**	**J**	4.5	1.8	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluoroheptanesulfonic acid	**2.7**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluoroheptanoic acid	**2.6**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorohexanesulfonic acid	**66**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorohexanoic acid	**7.8**		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorononanoic acid	**2.8**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorooctanesulfonic acid	**23**	**I**	1.8	0.90	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorooctanoic acid	**4.6**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluoropentanesulfonic acid	**12**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluoropentanoic acid	**4.8**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*151*		*10 - 200*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
M2-6:2 FTS	*122*		*17 - 200*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
M2-8:2 FTS	*114*		*33 - 200*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C2 PFTeDA	*82*		*10 - 179*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C3 PFBS	*105*		*16 - 200*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C4 PFBA	*101*		*42 - 165*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C4 PFHpA	*99*		*31 - 182*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C5 PFPeA	*129*		*38 - 187*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C8 PFOA	*104*		*48 - 162*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C8 PFOS	*106*		*51 - 159*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
d3-NMeFOSAA	*108*		*31 - 174*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
d5-NEtFOSAA	*113*		*29 - 195*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C3 PFHxS	*97*		*28 - 188*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C5 PFHxA	*98*		*24 - 179*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C6 PFDA	*96*		*49 - 163*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C7 PFUnA	*100*		*34 - 174*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C8 FOSA	*76*		*10 - 168*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C2-PFDoDA	*93*		*17 - 176*	*10/10/22 18:35*	*10/21/22 01:06*	*1*
13C9 PFNA	*108*		*51 - 167*	*10/10/22 18:35*	*10/21/22 01:06*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 21:27	1

Client Sample ID: PW-2

Date Collected: 10/04/22 10:00
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-1

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 21:27	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorobutanesulfonic acid	**11**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorobutanoic acid	**15**	**J !**	25	10	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluoroheptanoic acid	**3.3**	**J I !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorohexanesulfonic acid	**60**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorohexanoic acid	**14**	**I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorooctanesulfonic acid	**23**	**I !**	10	5.0	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorooctanoic acid	**8.7**	**J I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluoropentanesulfonic acid	**10**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluoropentanoic acid	**11**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 21:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*141*		*17 - 200*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
M2-8:2 FTS	*136*		*33 - 200*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C2 PFTeDA	*135*		*10 - 179*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C3 PFBS	*142*		*16 - 200*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C4 PFBA	*127*		*42 - 165*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C4 PFHpA	*128*		*31 - 182*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C5 PFPeA	*129*		*38 - 187*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C8 PFOA	*118*		*48 - 162*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C8 PFOS	*135*		*51 - 159*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
d5-NEtFOSAA	*141*		*29 - 195*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C3 PFHxS	*123*		*28 - 188*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C5 PFHxA	*124*		*24 - 179*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C6 PFDA	*127*		*49 - 163*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C7 PFUnA	*134*		*34 - 174*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C8 FOSA	*106*		*10 - 168*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C2-PFDoDA	*138*		*17 - 176*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C9 PFNA	*140*		*51 - 167*	*12/06/22 07:34*	*12/08/22 21:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*26 - 150*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C2 PFUnA	*116*		*11 - 187*	*12/06/22 07:34*	*12/08/22 21:27*	*1*
13C4 PFOA	*137*		*45 - 147*	*12/06/22 07:34*	*12/08/22 21:27*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**2.4**	**!**	2.0	1.0	ug/L		11/02/22 11:57	11/02/22 19:34	1

Client Sample ID: PW-2

Lab Sample ID: 410-100723-1

Date Collected: 10/04/22 10:00
Date Received: 10/06/22 09:50

Matrix: Water

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	11	!			ng/L			12/09/22 12:59	1
PFPA	5.8	!			ng/L			12/09/22 12:59	1
PFHxA	5.8	!			ng/L			12/09/22 12:59	1
PFHpA	0.66	!			ng/L			12/09/22 12:59	1
PFOA	4.1	!			ng/L			12/09/22 12:59	1
PFNA	0.00	!			ng/L			12/09/22 12:59	1
Total PFCA	26	!			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	3.5	J	4.5	1.8	ng/L			12/09/22 12:56	1
PFPA	4.8		1.8	0.45	ng/L			12/09/22 12:56	1
PFHxA	7.8		1.8	0.81	ng/L			12/09/22 12:56	1
PFHpA	2.6		1.8	0.45	ng/L			12/09/22 12:56	1
PFOA	4.6		1.8	0.45	ng/L			12/09/22 12:56	1
PFNA	2.8		1.8	0.45	ng/L			12/09/22 12:56	1
Total PFCA	26	J !	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	15	J !	25	10	ng/L			12/09/22 12:56	1
PFPA	11	!	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	14	I !	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	3.3	J I !	10	2.5	ng/L			12/09/22 12:56	1
PFOA	8.7	J I B !	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	52	J !	500	0.50	ng/L			12/09/22 12:56	1

Client Sample ID: PW-1

Lab Sample ID: 410-100723-2

Date Collected: 10/04/22 11:20
Date Received: 10/06/22 09:50

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 01:39	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 01:39	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorobutanesulfonic acid	2.4		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorobutanoic acid	1.9	J	4.5	1.8	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluoroheptanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluoroheptanoic acid	0.97	J	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorohexanesulfonic acid	1.1	J	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorohexanoic acid	1.8		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorononanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1

Client Sample ID: PW-1

Date Collected: 10/04/22 11:20
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-2

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorooctanesulfonic acid	**1.0**	**J**	1.8	0.90	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorooctanoic acid	**2.7**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluoropentanesulfonic acid	**0.52**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluoropentanoic acid	**3.3**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 01:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*131*		*10 - 200*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
M2-6:2 FTS	*112*		*17 - 200*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
M2-8:2 FTS	*117*		*33 - 200*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C2 PFTeDA	*89*		*10 - 179*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C3 PFBS	*107*		*16 - 200*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C4 PFBA	*103*		*42 - 165*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C4 PFHpA	*105*		*31 - 182*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C5 PFPeA	*114*		*38 - 187*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C8 PFOA	*102*		*48 - 162*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C8 PFOS	*110*		*51 - 159*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
d3-NMeFOSAA	*119*		*31 - 174*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
d5-NEtFOSAA	*126*		*29 - 195*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C3 PFHxS	*103*		*28 - 188*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C5 PFHxA	*100*		*24 - 179*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C6 PFDA	*103*		*49 - 163*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C7 PFUnA	*102*		*34 - 174*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C8 FOSA	*94*		*10 - 168*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C2-PFDoDA	*89*		*17 - 176*	*10/10/22 18:35*	*10/21/22 01:39*	*1*
13C9 PFNA	*111*		*51 - 167*	*10/10/22 18:35*	*10/21/22 01:39*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:00	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:00	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorohexanoic acid	**8.7**	**J I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:00	1

Client Sample ID: PW-1

Date Collected: 10/04/22 11:20
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-2

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	6.7	J I B ! cn	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluoropentanoic acid	6.0	J !	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*142*		*17 - 200*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
M2-8:2 FTS	*130*		*33 - 200*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C2 PFTeDA	*117*		*10 - 179*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C3 PFBS	*135*		*16 - 200*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C4 PFBA	*123*		*42 - 165*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C4 PFHpA	*117*		*31 - 182*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C5 PFPeA	*116*		*38 - 187*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C8 PFOA	*110*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C8 PFOS	*124*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
d5-NEtFOSAA	*117*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C3 PFHxS	*116*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C5 PFHxA	*115*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C6 PFDA	*117*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C7 PFUnA	*106*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C8 FOSA	*96*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C2-PFDoDA	*120*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C9 PFNA	*134*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C2 PFUnA	*108*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:00*	*1*
13C4 PFOA	*140*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:00*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	1.2	J !	2.0	1.0	ug/L		11/02/22 11:57	11/02/22 23:42	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	0.00	!			ng/L			12/09/22 12:59	1
PFPA	2.7	!			ng/L			12/09/22 12:59	1
PFHxA	6.9	!			ng/L			12/09/22 12:59	1
PFHpA	0.00	!			ng/L			12/09/22 12:59	1
PFOA	4.0	!			ng/L			12/09/22 12:59	1
PFNA	0.00	!			ng/L			12/09/22 12:59	1
Total PFCA	11	!			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	1.9	J	4.5	1.8	ng/L			12/09/22 12:56	1
PFPA	3.3		1.8	0.45	ng/L			12/09/22 12:56	1
PFHxA	1.8		1.8	0.81	ng/L			12/09/22 12:56	1

Client Sample ID: PW-1

Lab Sample ID: 410-100723-2

Date Collected: 10/04/22 11:20
Matrix: Water
Date Received: 10/06/22 09:50

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFHpA	**0.97**	**J**	1.8	0.45	ng/L			12/09/22 12:56	1
PFOA	**2.7**		1.8	0.45	ng/L			12/09/22 12:56	1
PFNA	ND		1.8	0.45	ng/L			12/09/22 12:56	1
Total PFCA	**11**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			12/09/22 12:56	1
PFPA	**6.0**	**J !**	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	**8.7**	**J I !**	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
PFOA	**6.7**	**J I B !**	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	**21**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Client Sample ID: PW-7

Lab Sample ID: 410-100723-3

Date Collected: 10/04/22 11:55
Matrix: Water
Date Received: 10/06/22 09:50

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	3.7	ng/L		10/10/22 18:35	10/21/22 01:50	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.89	ng/L		10/10/22 18:35	10/21/22 01:50	1
NEtFOSAA	ND		2.7	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
NMeFOSAA	ND		1.8	0.53	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorobutanesulfonic acid	**9.6**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorobutanoic acid	**3.0**	**J**	4.4	1.8	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorodecanesulfonic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorodecanoic acid	**0.54**	**J**	1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluoroheptanesulfonic acid	**9.5**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluoroheptanoic acid	**3.2**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorohexanesulfonic acid	**110**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorohexanoic acid	**9.4**		1.8	0.80	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorononanesulfonic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorononanoic acid	**2.1**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorooctanesulfonamide	ND		1.8	0.62	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorooctanesulfonic acid	**290**		1.8	0.89	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorooctanoic acid	**7.9**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluoropentanesulfonic acid	**15**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluoropentanoic acid	**4.1**		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		10/10/22 18:35	10/21/22 01:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*184*		*10 - 200*	*10/10/22 18:35*	*10/21/22 01:50*	*1*
M2-6:2 FTS	*138*		*17 - 200*	*10/10/22 18:35*	*10/21/22 01:50*	*1*
M2-8:2 FTS	*124*		*33 - 200*	*10/10/22 18:35*	*10/21/22 01:50*	*1*
13C2 PFTeDA	*90*		*10 - 179*	*10/10/22 18:35*	*10/21/22 01:50*	*1*

Client Sample ID: PW-7

Date Collected: 10/04/22 11:55
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-3

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	106		16 - 200	10/10/22 18:35	10/21/22 01:50	1
13C4 PFBA	102		42 - 165	10/10/22 18:35	10/21/22 01:50	1
13C4 PFHpA	96		31 - 182	10/10/22 18:35	10/21/22 01:50	1
13C5 PFPeA	102		38 - 187	10/10/22 18:35	10/21/22 01:50	1
13C8 PFOA	103		48 - 162	10/10/22 18:35	10/21/22 01:50	1
13C8 PFOS	105		51 - 159	10/10/22 18:35	10/21/22 01:50	1
d3-NMeFOSAA	117		31 - 174	10/10/22 18:35	10/21/22 01:50	1
d5-NEtFOSAA	118		29 - 195	10/10/22 18:35	10/21/22 01:50	1
13C3 PFHxS	93		28 - 188	10/10/22 18:35	10/21/22 01:50	1
13C5 PFHxA	99		24 - 179	10/10/22 18:35	10/21/22 01:50	1
13C6 PFDA	98		49 - 163	10/10/22 18:35	10/21/22 01:50	1
13C7 PFUnA	99		34 - 174	10/10/22 18:35	10/21/22 01:50	1
13C8 FOSA	91		10 - 168	10/10/22 18:35	10/21/22 01:50	1
13C2-PFDoDA	90		17 - 176	10/10/22 18:35	10/21/22 01:50	1
13C9 PFNA	108		51 - 167	10/10/22 18:35	10/21/22 01:50	1

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:11	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:11	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorobutanesulfonic acid	**9.4**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorobutanoic acid	**22**	**J !**	25	10	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluoroheptanesulfonic acid	**5.5**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluoroheptanoic acid	**4.7**	**J I !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorohexanesulfonic acid	**110**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorohexanoic acid	**100**	**I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorooctanesulfonic acid	**280**	**!**	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorooctanoic acid	**11**	**I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluoropentanesulfonic acid	**12**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluoropentanoic acid	**23**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	141		17 - 200	12/06/22 07:34	12/08/22 22:11	1
M2-8:2 FTS	122		33 - 200	12/06/22 07:34	12/08/22 22:11	1
13C2 PFTeDA	130		10 - 179	12/06/22 07:34	12/08/22 22:11	1
13C3 PFBS	128		16 - 200	12/06/22 07:34	12/08/22 22:11	1
13C4 PFBA	118		42 - 165	12/06/22 07:34	12/08/22 22:11	1
13C4 PFHpA	117		31 - 182	12/06/22 07:34	12/08/22 22:11	1

Client Sample ID: PW-7

Date Collected: 10/04/22 11:55
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-3

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*112*		*38 - 187*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C8 PFOA	*116*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C8 PFOS	*128*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
d5-NEtFOSAA	*123*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C3 PFHxS	*116*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C5 PFHxA	*118*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C6 PFDA	*118*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C7 PFUnA	*121*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C8 FOSA	*95*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C2-PFDoDA	*120*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C9 PFNA	*140*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C2 PFUnA	*109*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:11*	*1*
13C4 PFOA	*136*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:11*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**1.3**	**J !**	2.0	1.0	ug/L		11/02/22 11:57	11/03/22 00:17	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**19**	**!**			ng/L			12/09/22 12:59	1
PFPA	**19**	**!**			ng/L			12/09/22 12:59	1
PFHxA	**95**	**!**			ng/L			12/09/22 12:59	1
PFHpA	**1.6**	**!**			ng/L			12/09/22 12:59	1
PFOA	**3.5**	**!**			ng/L			12/09/22 12:59	1
PFNA	**0.00**	**!**			ng/L			12/09/22 12:59	1
Total PFCA	**130**	**!**			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**3.0**	**J**	4.4	1.8	ng/L			12/09/22 12:56	1
PFPA	**4.1**		1.8	0.44	ng/L			12/09/22 12:56	1
PFHxA	**9.4**		1.8	0.80	ng/L			12/09/22 12:56	1
PFHpA	**3.2**		1.8	0.44	ng/L			12/09/22 12:56	1
PFOA	**7.9**		1.8	0.44	ng/L			12/09/22 12:56	1
PFNA	**2.1**		1.8	0.44	ng/L			12/09/22 12:56	1
Total PFCA	**30**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**22**	**J !**	25	10	ng/L			12/09/22 12:56	1
PFPA	**23**	**!**	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	**100**	**I !**	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	**4.7**	**J I !**	10	2.5	ng/L			12/09/22 12:56	1
PFOA	**11**	**I B !**	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	**160**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: PW-7 DUP

Date Collected: 10/04/22 12:00
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-4

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 02:01	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.91	ng/L		10/10/22 18:35	10/21/22 02:01	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorobutanesulfonic acid	**10**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorobutanoic acid	**3.0**	**J**	4.5	1.8	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorodecanoic acid	**0.53**	**J**	1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluoroheptanesulfonic acid	**8.7**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluoroheptanoic acid	**3.2**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorohexanesulfonic acid	**110**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorohexanoic acid	**8.9**		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorononanoic acid	**2.0**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorooctanesulfonic acid	**290**		1.8	0.91	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorooctanoic acid	**7.9**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluoropentanesulfonic acid	**15**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluoropentanoic acid	**3.4**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*187*		*10 - 200*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
M2-6:2 FTS	*150*		*17 - 200*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
M2-8:2 FTS	*123*		*33 - 200*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C2 PFTeDA	*76*		*10 - 179*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C3 PFBS	*105*		*16 - 200*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C4 PFBA	*102*		*42 - 165*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C4 PFHpA	*106*		*31 - 182*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C5 PFPeA	*130*		*38 - 187*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C8 PFOA	*105*		*48 - 162*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C8 PFOS	*104*		*51 - 159*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
d3-NMeFOSAA	*105*		*31 - 174*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
d5-NEtFOSAA	*107*		*29 - 195*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C3 PFHxS	*102*		*28 - 188*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C5 PFHxA	*109*		*24 - 179*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C6 PFDA	*99*		*49 - 163*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C7 PFUnA	*91*		*34 - 174*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C8 FOSA	*87*		*10 - 168*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C2-PFDoDA	*70*		*17 - 176*	*10/10/22 18:35*	*10/21/22 02:01*	*1*
13C9 PFNA	*105*		*51 - 167*	*10/10/22 18:35*	*10/21/22 02:01*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:22	1

Client Sample ID: PW-7 DUP

Date Collected: 10/04/22 12:00
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-4

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:22	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorobutanesulfonic acid	**9.3**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorobutanoic acid	**23**	**J !**	25	10	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluoroheptanesulfonic acid	**5.6**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluoroheptanoic acid	**4.7**	**J I !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorohexanesulfonic acid	**100**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorohexanoic acid	**110**	**I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorooctanesulfonic acid	**270**	**!**	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorooctanoic acid	**12**	**I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluoropentanesulfonic acid	**13**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluoropentanoic acid	**24**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*123*		*17 - 200*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
M2-8:2 FTS	*108*		*33 - 200*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C2 PFTeDA	*118*		*10 - 179*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C3 PFBS	*124*		*16 - 200*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C4 PFBA	*118*		*42 - 165*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C4 PFHpA	*109*		*31 - 182*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C5 PFPeA	*116*		*38 - 187*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C8 PFOA	*108*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C8 PFOS	*116*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
d5-NEtFOSAA	*116*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C3 PFHxS	*107*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C5 PFHxA	*107*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C6 PFDA	*111*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C7 PFUnA	*108*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C8 FOSA	*91*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C2-PFDoDA	*107*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C9 PFNA	*126*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*82*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C2 PFUnA	*104*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:22*	*1*
13C4 PFOA	*125*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:22*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	**1.3**	**J !**	2.0	1.0	ug/L		11/02/22 11:57	11/03/22 00:52	1

Client Sample ID: PW-7 DUP

Lab Sample ID: 410-100723-4

Date Collected: 10/04/22 12:00
Date Received: 10/06/22 09:50

Matrix: Water

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	20	!			ng/L			12/09/22 12:59	1
PFPA	20	!			ng/L			12/09/22 12:59	1
PFHxA	98	!			ng/L			12/09/22 12:59	1
PFHpA	1.5	!			ng/L			12/09/22 12:59	1
PFOA	4.3	!			ng/L			12/09/22 12:59	1
PFNA	0.00	!			ng/L			12/09/22 12:59	1
Total PFCA	150	!			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	3.0	J	4.5	1.8	ng/L			12/09/22 12:56	1
PFPA	3.4		1.8	0.45	ng/L			12/09/22 12:56	1
PFHxA	8.9		1.8	0.81	ng/L			12/09/22 12:56	1
PFHpA	3.2		1.8	0.45	ng/L			12/09/22 12:56	1
PFOA	7.9		1.8	0.45	ng/L			12/09/22 12:56	1
PFNA	2.0		1.8	0.45	ng/L			12/09/22 12:56	1
Total PFCA	28	J !	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	23	J !	25	10	ng/L			12/09/22 12:56	1
PFPA	24	!	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	110	I !	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	4.7	J I !	10	2.5	ng/L			12/09/22 12:56	1
PFOA	12	I B !	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	170	J !	500	0.50	ng/L			12/09/22 12:56	1

Client Sample ID: PW-6

Lab Sample ID: 410-100723-5

Date Collected: 10/04/22 12:45
Date Received: 10/06/22 09:50

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	3.6	ng/L		10/10/22 18:35	10/21/22 02:12	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		10/10/22 18:35	10/21/22 02:12	1
NEtFOSAA	ND		2.6	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
NMeFOSAA	ND		1.7	0.52	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorobutanesulfonic acid	0.75	J	1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorobutanoic acid	2.4	J	4.3	1.7	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorodecanesulfonic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluoroheptanesulfonic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluoroheptanoic acid	2.1		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorohexanesulfonic acid	0.84	J	1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorohexanoic acid	4.1		1.7	0.78	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorononanesulfonic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorononanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1

Client Sample ID: PW-6

Date Collected: 10/04/22 12:45
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-5

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	ND		1.7	0.61	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorooctanesulfonic acid	**4.9**		1.7	0.87	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorooctanoic acid	**0.92**	**J**	1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluoropentanesulfonic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluoropentanoic acid	**7.4**		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		10/10/22 18:35	10/21/22 02:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*156*		*10 - 200*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
M2-6:2 FTS	*121*		*17 - 200*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
M2-8:2 FTS	*125*		*33 - 200*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C2 PFTeDA	*90*		*10 - 179*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C3 PFBS	*115*		*16 - 200*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C4 PFBA	*102*		*42 - 165*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C4 PFHpA	*107*		*31 - 182*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C5 PFPeA	*112*		*38 - 187*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C8 PFOA	*109*		*48 - 162*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C8 PFOS	*107*		*51 - 159*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
d3-NMeFOSAA	*126*		*31 - 174*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
d5-NEtFOSAA	*120*		*29 - 195*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C3 PFHxS	*113*		*28 - 188*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C5 PFHxA	*108*		*24 - 179*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C6 PFDA	*100*		*49 - 163*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C7 PFUnA	*106*		*34 - 174*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C8 FOSA	*99*		*10 - 168*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C2-PFDoDA	*86*		*17 - 176*	*10/10/22 18:35*	*10/21/22 02:12*	*1*
13C9 PFNA	*100*		*51 - 167*	*10/10/22 18:35*	*10/21/22 02:12*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:33	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:33	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorohexanoic acid	**9.2**	**J ! !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorooctanesulfonic acid	**5.5**	**J !**	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:33	1

Client Sample ID: PW-6

Date Collected: 10/04/22 12:45
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-5

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**4.7**	**J I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluoropentanoic acid	**9.7**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*130*		*17 - 200*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
M2-8:2 FTS	*118*		*33 - 200*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C2 PFTeDA	*122*		*10 - 179*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C3 PFBS	*127*		*16 - 200*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C4 PFBA	*120*		*42 - 165*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C4 PFHpA	*120*		*31 - 182*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C5 PFPeA	*122*		*38 - 187*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C8 PFOA	*113*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C8 PFOS	*124*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
d5-NEtFOSAA	*123*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C3 PFHxS	*117*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C5 PFHxA	*118*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C6 PFDA	*115*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C7 PFUnA	*121*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C8 FOSA	*103*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C2-PFDoDA	*116*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C9 PFNA	*130*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C2 PFUnA	*113*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:33*	*1*
13C4 PFOA	*142*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:33*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND	!	2.0	1.0	ug/L		11/02/22 11:57	11/03/22 01:28	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**0.00**	**!**			ng/L			12/09/22 12:59	1
PFPA	**2.3**	**!**			ng/L			12/09/22 12:59	1
PFHxA	**5.1**	**!**			ng/L			12/09/22 12:59	1
PFHpA	**0.00**	**!**			ng/L			12/09/22 12:59	1
PFOA	**3.8**	**!**			ng/L			12/09/22 12:59	1
PFNA	**0.00**	**!**			ng/L			12/09/22 12:59	1
Total PFCA	**6.7**	**!**			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**2.4**	**J**	4.3	1.7	ng/L			12/09/22 12:56	1
PFPA	**7.4**		1.7	0.43	ng/L			12/09/22 12:56	1
PFHxA	**4.1**		1.7	0.78	ng/L			12/09/22 12:56	1
PFHpA	**2.1**		1.7	0.43	ng/L			12/09/22 12:56	1

Client Sample ID: PW-6

Lab Sample ID: 410-100723-5

Date Collected: 10/04/22 12:45
Date Received: 10/06/22 09:50

Matrix: Water

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFOA	**0.92**	**J**	1.7	0.43	ng/L			12/09/22 12:56	1
PFNA	ND		1.7	0.43	ng/L			12/09/22 12:56	1
Total PFCA	**17**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			12/09/22 12:56	1
PFPA	**9.7**	**J !**	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	**9.2**	**J I !**	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
PFOA	**4.7**	**J I B !**	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	**24**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Client Sample ID: SBW

Lab Sample ID: 410-100723-6

Date Collected: 10/04/22 13:30
Date Received: 10/06/22 09:50

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	3.8	ng/L		10/10/22 18:35	10/21/22 02:34	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		10/10/22 18:35	10/21/22 02:34	1
NEtFOSAA	ND		2.7	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
NMeFOSAA	ND		1.8	0.54	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorobutanesulfonic acid	**9.0**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorobutanoic acid	**3.0**	**J**	4.5	1.8	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluoroheptanesulfonic acid	**3.2**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluoroheptanoic acid	**2.8**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorohexanesulfonic acid	**65**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorohexanoic acid	**9.1**		1.8	0.81	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorononanesulfonic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorononanoic acid	**6.7**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorooctanesulfonamide	ND		1.8	0.63	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorooctanesulfonic acid	**16**	**I**	1.8	0.90	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorooctanoic acid	**5.6**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluoropentanesulfonic acid	**9.5**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluoropentanoic acid	**4.9**		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		10/10/22 18:35	10/21/22 02:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*130*		*10 - 200*	*10/10/22 18:35*	*10/21/22 02:34*	*1*
M2-6:2 FTS	*115*		*17 - 200*	*10/10/22 18:35*	*10/21/22 02:34*	*1*
M2-8:2 FTS	*108*		*33 - 200*	*10/10/22 18:35*	*10/21/22 02:34*	*1*
13C2 PFTeDA	*77*		*10 - 179*	*10/10/22 18:35*	*10/21/22 02:34*	*1*
13C3 PFBS	*104*		*16 - 200*	*10/10/22 18:35*	*10/21/22 02:34*	*1*

Client Sample ID: SBW

Date Collected: 10/04/22 13:30
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-6

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	101		42 - 165	10/10/22 18:35	10/21/22 02:34	1
13C4 PFHpA	108		31 - 182	10/10/22 18:35	10/21/22 02:34	1
13C5 PFPeA	116		38 - 187	10/10/22 18:35	10/21/22 02:34	1
13C8 PFOA	101		48 - 162	10/10/22 18:35	10/21/22 02:34	1
13C8 PFOS	107		51 - 159	10/10/22 18:35	10/21/22 02:34	1
d3-NMeFOSAA	100		31 - 174	10/10/22 18:35	10/21/22 02:34	1
d5-NEtFOSAA	96		29 - 195	10/10/22 18:35	10/21/22 02:34	1
13C3 PFHxS	104		28 - 188	10/10/22 18:35	10/21/22 02:34	1
13C5 PFHxA	103		24 - 179	10/10/22 18:35	10/21/22 02:34	1
13C6 PFDA	91		49 - 163	10/10/22 18:35	10/21/22 02:34	1
13C7 PFUnA	93		34 - 174	10/10/22 18:35	10/21/22 02:34	1
13C8 FOSA	79		10 - 168	10/10/22 18:35	10/21/22 02:34	1
13C2-PFDoDA	79		17 - 176	10/10/22 18:35	10/21/22 02:34	1
13C9 PFNA	109		51 - 167	10/10/22 18:35	10/21/22 02:34	1

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:44	1
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:44	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorobutanesulfonic acid	**8.5**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorobutanoic acid	**16**	**J !**	25	10	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluoroheptanoic acid	**3.0**	**J I !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorohexanesulfonic acid	**64**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorohexanoic acid	**30**	**I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorononanoic acid	**5.7**	**J I !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorooctanesulfonic acid	**16**	**I !**	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorooctanoic acid	**9.1**	**J I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluoropentanesulfonic acid	**9.2**	**J !**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluoropentanoic acid	**13**	**!**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	141		17 - 200	12/06/22 07:34	12/08/22 22:44	1
M2-8:2 FTS	120		33 - 200	12/06/22 07:34	12/08/22 22:44	1
13C2 PFTeDA	120		10 - 179	12/06/22 07:34	12/08/22 22:44	1
13C3 PFBS	127		16 - 200	12/06/22 07:34	12/08/22 22:44	1
13C4 PFBA	123		42 - 165	12/06/22 07:34	12/08/22 22:44	1
13C4 PFHpA	119		31 - 182	12/06/22 07:34	12/08/22 22:44	1
13C5 PFPeA	127		38 - 187	12/06/22 07:34	12/08/22 22:44	1

Client Sample ID: SBW

Date Collected: 10/04/22 13:30
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-6

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*116*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C8 PFOS	*127*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
d5-NEtFOSAA	*118*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C3 PFHxS	*120*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C5 PFHxA	*119*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C6 PFDA	*118*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C7 PFUnA	*109*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C8 FOSA	*100*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C2-PFDoDA	*115*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C9 PFNA	*137*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C2 PFUnA	*103*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:44*	*1*
13C4 PFOA	*137*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:44*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND	!	2.0	1.0	ug/L		11/02/22 11:57	11/03/22 02:03	1

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**13**	**!**			ng/L			12/09/22 12:59	1
PFPA	**8.0**	**!**			ng/L			12/09/22 12:59	1
PFHxA	**21**	**!**			ng/L			12/09/22 12:59	1
PFHpA	**0.24**	**!**			ng/L			12/09/22 12:59	1
PFOA	**3.5**	**!**			ng/L			12/09/22 12:59	1
PFNA	**0.00**	**!**			ng/L			12/09/22 12:59	1
Total PFCA	**45**	**!**			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**3.0**	**J**	4.5	1.8	ng/L			12/09/22 12:56	1
PFPA	**4.9**		1.8	0.45	ng/L			12/09/22 12:56	1
PFHxA	**9.1**		1.8	0.81	ng/L			12/09/22 12:56	1
PFHpA	**2.8**		1.8	0.45	ng/L			12/09/22 12:56	1
PFOA	**5.6**		1.8	0.45	ng/L			12/09/22 12:56	1
PFNA	**6.7**		1.8	0.45	ng/L			12/09/22 12:56	1
Total PFCA	**32**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	**16**	**J !**	25	10	ng/L			12/09/22 12:56	1
PFPA	**13**	**!**	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	**30**	**I !**	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	**3.0**	**J I !**	10	2.5	ng/L			12/09/22 12:56	1
PFOA	**9.1**	**J I B !**	10	2.5	ng/L			12/09/22 12:56	1
PFNA	**5.7**	**J I !**	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	**77**	**J !**	500	0.50	ng/L			12/09/22 12:56	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: FB-1

Date Collected: 10/04/22 12:55
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-7

Matrix: Water

Method: EPA 537 IDA - EPA 537 Isotope Dilution - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
6:2 Fluorotelomer sulfonic acid	ND		4.7	3.9	ng/L		10/10/22 18:35	10/21/22 02:45	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.94	ng/L		10/10/22 18:35	10/21/22 02:45	1
NEtFOSAA	ND		2.8	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
NMeFOSAA	ND		1.9	0.56	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorobutanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorobutanoic acid	ND		4.7	1.9	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorodecanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorodecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorododecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluoroheptanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluoroheptanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorohexanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorohexanoic acid	ND		1.9	0.84	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorononanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorononanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorooctanesulfonamide	ND		1.9	0.66	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorooctanesulfonic acid	ND		1.9	0.94	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorooctanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluoropentanesulfonic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluoropentanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorotetradecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluorotridecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1
Perfluoroundecanoic acid	ND		1.9	0.47	ng/L		10/10/22 18:35	10/21/22 02:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*112*		*10 - 200*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
M2-6:2 FTS	*114*		*17 - 200*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
M2-8:2 FTS	*127*		*33 - 200*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C2 PFTeDA	*86*		*10 - 179*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C3 PFBS	*96*		*16 - 200*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C4 PFBA	*104*		*42 - 165*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C4 PFHpA	*110*		*31 - 182*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C5 PFPeA	*117*		*38 - 187*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C8 PFOA	*107*		*48 - 162*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C8 PFOS	*108*		*51 - 159*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
d3-NMeFOSAA	*121*		*31 - 174*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
d5-NEtFOSAA	*120*		*29 - 195*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C3 PFHxS	*108*		*28 - 188*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C5 PFHxA	*104*		*24 - 179*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C6 PFDA	*104*		*49 - 163*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C7 PFUnA	*102*		*34 - 174*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C8 FOSA	*94*		*10 - 168*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C2-PFDoDA	*90*		*17 - 176*	*10/10/22 18:35*	*10/21/22 02:45*	*1*
13C9 PFNA	*107*		*51 - 167*	*10/10/22 18:35*	*10/21/22 02:45*	*1*

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
6:2 Fluorotelomer sulfonic acid	ND	!	25	21	ng/L		12/06/22 07:34	12/08/22 22:55	1

Client Sample ID: FB-1

Date Collected: 10/04/22 12:55
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-7

Matrix: Water

Method: EPA 537 TOP - Fluorinated Alkyl Substances - Post-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND	!	15	5.0	ng/L		12/06/22 07:34	12/08/22 22:55	1
NEtFOSAA	ND	!	15	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
NMeFOSAA	ND	!	10	3.0	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorobutanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorobutanoic acid	ND	!	25	10	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorodecanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorodecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorododecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluoroheptanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluoroheptanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorohexanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorohexanoic acid	**8.0**	**J I !**	10	4.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorononanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorononanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorooctanesulfonamide	ND	!	10	3.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorooctanesulfonic acid	ND	!	10	5.0	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorooctanoic acid	**3.3**	**J I B ! cn**	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluoropentanesulfonic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluoropentanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorotetradecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluorotridecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1
Perfluoroundecanoic acid	ND	!	10	2.5	ng/L		12/06/22 07:34	12/08/22 22:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*135*		*17 - 200*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
M2-8:2 FTS	*126*		*33 - 200*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C2 PFTeDA	*117*		*10 - 179*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C3 PFBS	*132*		*16 - 200*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C4 PFBA	*119*		*42 - 165*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C4 PFHpA	*119*		*31 - 182*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C5 PFPeA	*127*		*38 - 187*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C8 PFOA	*115*		*48 - 162*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C8 PFOS	*126*		*51 - 159*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
d5-NEtFOSAA	*121*		*29 - 195*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C3 PFHxS	*121*		*28 - 188*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C5 PFHxA	*125*		*24 - 179*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C6 PFDA	*119*		*49 - 163*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C7 PFUnA	*121*		*34 - 174*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C8 FOSA	*103*		*10 - 168*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C2-PFDoDA	*115*		*17 - 176*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C9 PFNA	*131*		*51 - 167*	*12/06/22 07:34*	*12/08/22 22:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*26 - 150*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C2 PFUnA	*112*		*11 - 187*	*12/06/22 07:34*	*12/08/22 22:55*	*1*
13C4 PFOA	*139*		*45 - 147*	*12/06/22 07:34*	*12/08/22 22:55*	*1*

Method: ELLE - Lancaster ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND	!	2.0	1.0	ug/L		11/02/22 11:57	11/03/22 03:49	1

Client Sample Results

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: FB-1

Lab Sample ID: 410-100723-7

Date Collected: 10/04/22 12:55
Date Received: 10/06/22 09:50

Matrix: Water

Method: TAL SOP Total PFCA-Dif - Total PFCA (Treatment Difference)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	0.00	!			ng/L			12/09/22 12:59	1
PFPA	0.00	!			ng/L			12/09/22 12:59	1
PFHxA	8.0	!			ng/L			12/09/22 12:59	1
PFHpA	0.00	!			ng/L			12/09/22 12:59	1
PFOA	3.3	!			ng/L			12/09/22 12:59	1
PFNA	0.00	!			ng/L			12/09/22 12:59	1
Total PFCA	11	!			ng/L			12/09/22 12:59	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND		4.7	1.9	ng/L			12/09/22 12:56	1
PFPA	ND		1.9	0.47	ng/L			12/09/22 12:56	1
PFHxA	ND		1.9	0.84	ng/L			12/09/22 12:56	1
PFHpA	ND		1.9	0.47	ng/L			12/09/22 12:56	1
PFOA	ND		1.9	0.47	ng/L			12/09/22 12:56	1
PFNA	ND		1.9	0.47	ng/L			12/09/22 12:56	1
Total PFCA	ND	!	500	0.50	ng/L			12/09/22 12:56	1

Method: TAL SOP Total PFCA-Sum - Total PFCA (Summary) - Post-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFBA	ND	!	25	10	ng/L			12/09/22 12:56	1
PFPA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
PFHxA	8.0	J I !	10	4.5	ng/L			12/09/22 12:56	1
PFHpA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
PFOA	3.3	J I B !	10	2.5	ng/L			12/09/22 12:56	1
PFNA	ND	!	10	2.5	ng/L			12/09/22 12:56	1
Total PFCA	11	J !	500	0.50	ng/L			12/09/22 12:56	1

Surrogate Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Method: 537 TOP - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Post-Treatment

		Percent Surrogate Recovery (Acceptance Limits)							
		PFHxA	PFUnA	PFOA					
Lab Sample ID	Client Sample ID	(26-150)	(11-187)	(45-147)					
410-100723-1	PW-2	94	116	137					
410-100723-2	PW-1	107	108	140					
410-100723-3	PW-7	94	109	136					
410-100723-4	PW-7 DUP	82	104	125					
410-100723-5	PW-6	106	113	142					
410-100723-6	SBW	87	103	137					
410-100723-7	FB-1	110	112	139					
LCS 410-323977/3-A	Lab Control Sample	104	115	137					
LCSD 410-323977/4-A	Lab Control Sample Dup	99	113	137					
MB 410-323977/2-A	Method Blank	120	127	153 S1+					

Surrogate Legend

PFHxA = 13C2 PFHxA
PFUnA = 13C2 PFUnA
PFOA = 13C4 PFOA

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Method: 537 IDA - EPA 537 Isotope Dilution

Matrix: Water **Prep Type: Pre-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	PFTDA	C3PFBS	PFBA	C4PFHA	PFPeA
Lab Sample ID	Client Sample ID	(10-200)	(17-200)	(33-200)	(10-179)	(16-200)	(42-165)	(31-182)	(38-187)
410-100723-1	PW-2	151	122	114	82	105	101	99	129
410-100723-2	PW-1	131	112	117	89	107	103	105	114
410-100723-3	PW-7	184	138	124	90	106	102	96	102
410-100723-4	PW-7 DUP	187	150	123	76	105	102	106	130
410-100723-5	PW-6	156	121	125	90	115	102	107	112
410-100723-6	SBW	130	115	108	77	104	101	108	116
410-100723-7	FB-1	112	114	127	86	96	104	110	117
LCS 410-305007/2-A	Lab Control Sample	124	113	107	90	96	102	103	111
MB 410-305007/1-A	Method Blank	107	108	120	90	96	100	108	99

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C8PFOA	C8PFOS	d3NMFOS	d5NEFOS	C3PFHS	13C5PHA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(48-162)	(51-159)	(31-174)	(29-195)	(28-188)	(24-179)	(49-163)	(34-174)
410-100723-1	PW-2	104	106	108	113	97	98	96	100
410-100723-2	PW-1	102	110	119	126	103	100	103	102
410-100723-3	PW-7	103	105	117	118	93	99	98	99
410-100723-4	PW-7 DUP	105	104	105	107	102	109	99	91
410-100723-5	PW-6	109	107	126	120	113	108	100	106
410-100723-6	SBW	101	107	100	96	104	103	91	93
410-100723-7	FB-1	107	108	121	120	108	104	104	102
LCS 410-305007/2-A	Lab Control Sample	102	110	115	106	97	104	103	98
MB 410-305007/1-A	Method Blank	106	112	120	116	105	101	102	98

		Percent Isotope Dilution Recovery (Acceptance Limits)		
		PFOSA	PFDoDA	C9PFNA
Lab Sample ID	Client Sample ID	(10-168)	(17-176)	(51-167)
410-100723-1	PW-2	76	93	108
410-100723-2	PW-1	94	89	111
410-100723-3	PW-7	91	90	108
410-100723-4	PW-7 DUP	87	70	105
410-100723-5	PW-6	99	86	100
410-100723-6	SBW	79	79	109
410-100723-7	FB-1	94	90	107
LCS 410-305007/2-A	Lab Control Sample	89	87	105
MB 410-305007/1-A	Method Blank	91	92	109

Surrogate Legend

M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
C3PFHS = 13C3 PFHxS
13C5PHA = 13C5 PFHxA

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Job ID: 410-100723-1
Project/Site: Saegertown PFAS Site

C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFOSA = 13C8 FOSA
PFDoDA = 13C2-PFDoDA
C9PFNA = 13C9 PFNA

Method: 537 TOP - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Post-Treatment**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M262FTS	M282FTS	PFTDA	C3PFBS	PFBA	C4PFHA	PFPeA	C8PFOA
Lab Sample ID	Client Sample ID	(17-200)	(33-200)	(10-179)	(16-200)	(42-165)	(31-182)	(38-187)	(48-162)
410-100723-1	PW-2	141	136	135	142	127	128	129	118
410-100723-2	PW-1	142	130	117	135	123	117	116	110
410-100723-3	PW-7	141	122	130	128	118	117	112	116
410-100723-4	PW-7 DUP	123	108	118	124	118	109	116	108
410-100723-5	PW-6	130	118	122	127	120	120	122	113
410-100723-6	SBW	141	120	120	127	123	119	127	116
410-100723-7	FB-1	135	126	117	132	119	119	127	115
LCS 410-323977/3-A	Lab Control Sample	130	129	115	135	118	121	108	113
LCSD 410-323977/4-A	Lab Control Sample Dup	129	125	118	133	120	120	120	113
MB 410-323977/2-A	Method Blank	152	160	146	164	145	142	144	137

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C8PFOS	d5NEFOS	C3PFHS	13C5PHA	C6PFDA	13C7PUA	PFOSA	PFDoDA
Lab Sample ID	Client Sample ID	(51-159)	(29-195)	(28-188)	(24-179)	(49-163)	(34-174)	(10-168)	(17-176)
410-100723-1	PW-2	135	141	123	124	127	134	106	138
410-100723-2	PW-1	124	117	116	115	117	106	96	120
410-100723-3	PW-7	128	123	116	118	118	121	95	120
410-100723-4	PW-7 DUP	116	116	107	107	111	108	91	107
410-100723-5	PW-6	124	123	117	118	115	121	103	116
410-100723-6	SBW	127	118	120	119	118	109	100	115
410-100723-7	FB-1	126	121	121	125	119	121	103	115
LCS 410-323977/3-A	Lab Control Sample	122	134	120	116	123	130	102	118
LCSD 410-323977/4-A	Lab Control Sample Dup	120	116	123	117	118	114	98	114
MB 410-323977/2-A	Method Blank	147	143	148	142	145	151	123	146

		Percent Isotope Dilution Recovery (Acceptance Limits)
		C9PFNA
Lab Sample ID	Client Sample ID	(51-167)
410-100723-1	PW-2	140
410-100723-2	PW-1	134
410-100723-3	PW-7	140
410-100723-4	PW-7 DUP	126
410-100723-5	PW-6	130
410-100723-6	SBW	137
410-100723-7	FB-1	131
LCS 410-323977/3-A	Lab Control Sample	128
LCSD 410-323977/4-A	Lab Control Sample Dup	124
MB 410-323977/2-A	Method Blank	153

Surrogate Legend

M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA

Isotope Dilution Summary

Client: Michael Baker International, Inc.
Job ID: 410-100723-1
Project/Site: Saegertown PFAS Site

PFPeA = 13C5 PFPeA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
d5NEFOS = d5-NEtFOSAA
C3PFHS = 13C3 PFHxS
13C5PHA = 13C5 PFHxA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFOSA = 13C8 FOSA
PFDoDA = 13C2-PFDoDA
C9PFNA = 13C9 PFNA

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-305007/1-A
Matrix: Water
Analysis Batch: 308596

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 305007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	4.2	ng/L		10/10/22 18:35	10/21/22 00:10	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
NEtFOSAA	ND		3.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
NMeFOSAA	ND		2.0	0.60	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorohexanoic acid	ND		2.0	0.90	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanesulfonamide	ND		2.0	0.70	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanesulfonic acid	ND		2.0	1.0	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		10/10/22 18:35	10/21/22 00:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*107*		*10 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
M2-6:2 FTS	*108*		*17 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
M2-8:2 FTS	*120*		*33 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C2 PFTeDA	*90*		*10 - 179*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C3 PFBS	*96*		*16 - 200*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C4 PFBA	*100*		*42 - 165*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C4 PFHpA	*108*		*31 - 182*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C5 PFPeA	*99*		*38 - 187*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 PFOA	*106*		*48 - 162*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 PFOS	*112*		*51 - 159*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
d3-NMeFOSAA	*120*		*31 - 174*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
d5-NEtFOSAA	*116*		*29 - 195*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C3 PFHxS	*105*		*28 - 188*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C5 PFHxA	*101*		*24 - 179*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C6 PFDA	*102*		*49 - 163*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C7 PFUnA	*98*		*34 - 174*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C8 FOSA	*91*		*10 - 168*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C2-PFDoDA	*92*		*17 - 176*	*10/10/22 18:35*	*10/21/22 00:10*	*1*
13C9 PFNA	*109*		*51 - 167*	*10/10/22 18:35*	*10/21/22 00:10*	*1*

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-305007/2-A
Matrix: Water
Analysis Batch: 308596

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 305007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 Fluorotelomer sulfonic acid	23.9	18.3		ng/L		77	55 - 139
6:2 Fluorotelomer sulfonic acid	24.3	20.9		ng/L		86	28 - 173
8:2 Fluorotelomer sulfonic acid	24.5	21.5		ng/L		88	55 - 138
NEtFOSAA	25.6	24.6		ng/L		96	55 - 134
NMeFOSAA	25.6	23.1		ng/L		90	59 - 140
Perfluorobutanesulfonic acid	22.7	21.5		ng/L		95	53 - 138
Perfluorobutanoic acid	25.6	23.0		ng/L		90	59 - 136
Perfluorodecanesulfonic acid	24.7	20.1		ng/L		81	55 - 137
Perfluorodecanoic acid	25.6	24.3		ng/L		95	56 - 138
Perfluorododecanoic acid	25.6	24.0		ng/L		94	59 - 143
Perfluoroheptanesulfonic acid	24.4	22.6		ng/L		93	56 - 140
Perfluoroheptanoic acid	25.6	23.4		ng/L		91	59 - 145
Perfluorohexanesulfonic acid	23.3	21.1		ng/L		90	58 - 134
Perfluorohexanoic acid	25.6	22.2		ng/L		87	58 - 139
Perfluorononanesulfonic acid	24.6	20.3		ng/L		82	59 - 136
Perfluorononanoic acid	25.6	23.0		ng/L		90	61 - 139
Perfluorooctanesulfonamide	25.6	25.8		ng/L		101	43 - 167
Perfluorooctanesulfonic acid	23.7	20.2		ng/L		85	45 - 150
Perfluorooctanoic acid	25.6	23.0		ng/L		90	51 - 145
Perfluoropentanesulfonic acid	24.0	24.1		ng/L		100	55 - 140
Perfluoropentanoic acid	25.6	21.9		ng/L		86	57 - 141
Perfluorotetradecanoic acid	25.6	23.8		ng/L		93	62 - 139
Perfluorotridecanoic acid	25.6	27.2		ng/L		106	58 - 146
Perfluoroundecanoic acid	25.6	25.1		ng/L		98	60 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*124*		*10 - 200*
M2-6:2 FTS	*113*		*17 - 200*
M2-8:2 FTS	*107*		*33 - 200*
13C2 PFTeDA	*90*		*10 - 179*
13C3 PFBS	*96*		*16 - 200*
13C4 PFBA	*102*		*42 - 165*
13C4 PFHpA	*103*		*31 - 182*
13C5 PFPeA	*111*		*38 - 187*
13C8 PFOA	*102*		*48 - 162*
13C8 PFOS	*110*		*51 - 159*
d3-NMeFOSAA	*115*		*31 - 174*
d5-NEtFOSAA	*106*		*29 - 195*
13C3 PFHxS	*97*		*28 - 188*
13C5 PFHxA	*104*		*24 - 179*
13C6 PFDA	*103*		*49 - 163*
13C7 PFUnA	*98*		*34 - 174*
13C8 FOSA	*89*		*10 - 168*
13C2-PFDoDA	*87*		*17 - 176*
13C9 PFNA	*105*		*51 - 167*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: MB 410-323977/2-A
Matrix: Water
Analysis Batch: 325086

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 323977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
6:2 Fluorotelomer sulfonic acid	ND		25	21	ng/L		12/06/22 07:34	12/08/22 20:53	1
8:2 Fluorotelomer sulfonic acid	ND		15	5.0	ng/L		12/06/22 07:34	12/08/22 20:53	1
NEtFOSAA	ND		15	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
NMeFOSAA	ND		10	3.0	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorobutanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorobutanoic acid	ND		25	10	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorodecanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorodecanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorododecanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluoroheptanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluoroheptanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorohexanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorohexanoic acid	ND		10	4.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorononanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorononanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorooctanesulfonamide	ND		10	3.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorooctanesulfonic acid	ND		10	5.0	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorooctanoic acid	4.82	J I B	10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluoropentanesulfonic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluoropentanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorotetradecanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluorotridecanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1
Perfluoroundecanoic acid	ND		10	2.5	ng/L		12/06/22 07:34	12/08/22 20:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*152*		*17 - 200*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
M2-8:2 FTS	*160*		*33 - 200*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C2 PFTeDA	*146*		*10 - 179*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C3 PFBS	*164*		*16 - 200*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C4 PFBA	*145*		*42 - 165*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C4 PFHpA	*142*		*31 - 182*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C5 PFPeA	*144*		*38 - 187*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C8 PFOA	*137*		*48 - 162*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C8 PFOS	*147*		*51 - 159*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
d5-NEtFOSAA	*143*		*29 - 195*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C3 PFHxS	*148*		*28 - 188*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C5 PFHxA	*142*		*24 - 179*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C6 PFDA	*145*		*49 - 163*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C7 PFUnA	*151*		*34 - 174*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C8 FOSA	*123*		*10 - 168*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C2-PFDoDA	*146*		*17 - 176*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C9 PFNA	*153*		*51 - 167*	*12/06/22 07:34*	*12/08/22 20:53*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*120*		*26 - 150*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C2 PFUnA	*127*		*11 - 187*	*12/06/22 07:34*	*12/08/22 20:53*	*1*
13C4 PFOA	*153*	*S1+*	*45 - 147*	*12/06/22 07:34*	*12/08/22 20:53*	*1*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: LCS 410-323977/3-A
Matrix: Water
Analysis Batch: 325086

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 323977

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4:2 Fluorotelomer sulfonic acid			120	130	I	ng/L		109	55 - 139		
6:2 Fluorotelomer sulfonic acid			121	125		ng/L		103	28 - 173		
8:2 Fluorotelomer sulfonic acid			123	128	I	ng/L		104	55 - 138		
NEtFOSAA			128	117		ng/L		92	55 - 134		
NMeFOSAA			128	114	I	ng/L		89	59 - 140		
Perfluorobutanesulfonic acid			113	109		ng/L		97	53 - 138		
Perfluorobutanoic acid			128	129		ng/L		101	59 - 136		
Perfluorodecanesulfonic acid			123	115	I	ng/L		93	55 - 137		
Perfluorodecanoic acid			128	141	I	ng/L		110	56 - 138		
Perfluorododecanoic acid			128	135	I	ng/L		106	59 - 143		
Perfluoroheptanesulfonic acid			122	108		ng/L		88	56 - 140		
Perfluoroheptanoic acid			128	126	I	ng/L		98	59 - 145		
Perfluorohexanesulfonic acid			117	106		ng/L		91	58 - 134		
Perfluorohexanoic acid			128	121	I	ng/L		95	58 - 139		
Perfluorononanesulfonic acid			123	122		ng/L		99	59 - 136		
Perfluorononanoic acid			128	130	I	ng/L		101	61 - 139		
Perfluorooctanesulfonamide			128	138		ng/L		107	43 - 167		
Perfluorooctanesulfonic acid			118	118		ng/L		100	45 - 150		
Perfluorooctanoic acid			128	134	I	ng/L		104	51 - 145		
Perfluoropentanesulfonic acid			120	122		ng/L		101	55 - 140		
Perfluoropentanoic acid			128	153		ng/L		119	57 - 141		
Perfluorotetradecanoic acid			128	130	I	ng/L		102	62 - 139		
Perfluorotridecanoic acid			128	129	I	ng/L		101	58 - 146		
Perfluoroundecanoic acid			128	128	I	ng/L		100	60 - 141		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-6:2 FTS	*130*		*17 - 200*
M2-8:2 FTS	*129*		*33 - 200*
13C2 PFTeDA	*115*		*10 - 179*
13C3 PFBS	*135*		*16 - 200*
13C4 PFBA	*118*		*42 - 165*
13C4 PFHpA	*121*		*31 - 182*
13C5 PFPeA	*108*		*38 - 187*
13C8 PFOA	*113*		*48 - 162*
13C8 PFOS	*122*		*51 - 159*
d5-NEtFOSAA	*134*		*29 - 195*
13C3 PFHxS	*120*		*28 - 188*
13C5 PFHxA	*116*		*24 - 179*
13C6 PFDA	*123*		*49 - 163*
13C7 PFUnA	*130*		*34 - 174*
13C8 FOSA	*102*		*10 - 168*
13C2-PFDoDA	*118*		*17 - 176*
13C9 PFNA	*128*		*51 - 167*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*104*		*26 - 150*
13C2 PFUnA	*115*		*11 - 187*
13C4 PFOA	*137*		*45 - 147*

Method: 537 TOP - Fluorinated Alkyl Substances

Lab Sample ID: LCSD 410-323977/4-A
Matrix: Water
Analysis Batch: 325086

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 323977

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4:2 Fluorotelomer sulfonic acid			120	138	I	ng/L		115	55 - 139	6	30
6:2 Fluorotelomer sulfonic acid			121	126		ng/L		103	28 - 173	1	30
8:2 Fluorotelomer sulfonic acid			123	127	I	ng/L		103	55 - 138	1	30
NEtFOSAA			128	132		ng/L		103	55 - 134	12	30
NMeFOSAA			128	137	I	ng/L		107	59 - 140	18	30
Perfluorobutanesulfonic acid			113	116		ng/L		102	53 - 138	6	30
Perfluorobutanoic acid			128	134		ng/L		104	59 - 136	4	30
Perfluorodecanesulfonic acid			123	109		ng/L		88	55 - 137	5	30
Perfluorodecanoic acid			128	139	I	ng/L		108	56 - 138	2	30
Perfluorododecanoic acid			128	145	I	ng/L		113	59 - 143	7	30
Perfluoroheptanesulfonic acid			122	104		ng/L		85	56 - 140	3	30
Perfluoroheptanoic acid			128	128	I	ng/L		100	59 - 145	2	30
Perfluorohexanesulfonic acid			117	107		ng/L		91	58 - 134	1	30
Perfluorohexanoic acid			128	125	I	ng/L		98	58 - 139	3	30
Perfluorononanesulfonic acid			123	125		ng/L		101	59 - 136	2	30
Perfluorononanoic acid			128	133	I	ng/L		104	61 - 139	2	30
Perfluorooctanesulfonamide			128	148		ng/L		116	43 - 167	7	30
Perfluorooctanesulfonic acid			118	118		ng/L		100	45 - 150	0	30
Perfluorooctanoic acid			128	135	I	ng/L		106	51 - 145	1	30
Perfluoropentanesulfonic acid			120	130		ng/L		109	55 - 140	7	30
Perfluoropentanoic acid			128	140		ng/L		109	57 - 141	9	30
Perfluorotetradecanoic acid			128	136	I	ng/L		106	62 - 139	4	30
Perfluorotridecanoic acid			128	136	I	ng/L		107	58 - 146	6	30
Perfluoroundecanoic acid			128	135	I	ng/L		106	60 - 141	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-6:2 FTS	*129*		*17 - 200*
M2-8:2 FTS	*125*		*33 - 200*
13C2 PFTeDA	*118*		*10 - 179*
13C3 PFBS	*133*		*16 - 200*
13C4 PFBA	*120*		*42 - 165*
13C4 PFHpA	*120*		*31 - 182*
13C5 PFPeA	*120*		*38 - 187*
13C8 PFOA	*113*		*48 - 162*
13C8 PFOS	*120*		*51 - 159*
d5-NEtFOSAA	*116*		*29 - 195*
13C3 PFHxS	*123*		*28 - 188*
13C5 PFHxA	*117*		*24 - 179*
13C6 PFDA	*118*		*49 - 163*
13C7 PFUnA	*114*		*34 - 174*
13C8 FOSA	*98*		*10 - 168*
13C2-PFDoDA	*114*		*17 - 176*
13C9 PFNA	*124*		*51 - 167*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*99*		*26 - 150*
13C2 PFUnA	*113*		*11 - 187*
13C4 PFOA	*137*		*45 - 147*

Method: ELLE SOP - Total or Organic Fluorine by Combustion Ion Chromatography

Lab Sample ID: MB 410-313156/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313156**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Fluorine (AOF)	ND		2.0	1.0	ug/L		11/02/22 11:57	11/03/22 10:53	1

Lab Sample ID: LCS 410-313156/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313156**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Adsorbable Organic Fluorine (AOF)	20.2	20.3		ug/L		100	50 - 150

Lab Sample ID: LCSD 410-313156/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313156**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Adsorbable Organic Fluorine (AOF)	20.2	20.4		ug/L		101	50 - 150	0	20

Lab Sample ID: 410-100723-1 MS — **Client Sample ID: PW-2 MS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Adsorbable Organic Fluorine (AOF)	2.4	!	20.2	20.4		ug/L		89	50 - 150

Lab Sample ID: 410-100723-1 MSD — **Client Sample ID: PW-2 MSD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312663 — **Prep Batch: 313156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Adsorbable Organic Fluorine (AOF)	2.4	!	20.2	20.3		ug/L		88	50 - 150	1	20

LCMS

Prep Batch: 305007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-2	PW-1	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-3	PW-7	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-4	PW-7 DUP	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-5	PW-6	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-6	SBW	Pre-Treatment	Water	TOP Pre - Prep	
410-100723-7	FB-1	Pre-Treatment	Water	TOP Pre - Prep	
MB 410-305007/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 410-305007/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	

Analysis Batch: 308596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Pre-Treatment	Water	537 IDA	305007
410-100723-2	PW-1	Pre-Treatment	Water	537 IDA	305007
410-100723-3	PW-7	Pre-Treatment	Water	537 IDA	305007
410-100723-4	PW-7 DUP	Pre-Treatment	Water	537 IDA	305007
410-100723-5	PW-6	Pre-Treatment	Water	537 IDA	305007
410-100723-6	SBW	Pre-Treatment	Water	537 IDA	305007
410-100723-7	FB-1	Pre-Treatment	Water	537 IDA	305007
MB 410-305007/1-A	Method Blank	Pre-Treatment	Water	537 IDA	305007
LCS 410-305007/2-A	Lab Control Sample	Pre-Treatment	Water	537 IDA	305007

Analysis Batch: 312663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Total/NA	Water	ELLE SOP	313156
410-100723-2	PW-1	Total/NA	Water	ELLE SOP	313156
410-100723-3	PW-7	Total/NA	Water	ELLE SOP	313156
410-100723-4	PW-7 DUP	Total/NA	Water	ELLE SOP	313156
410-100723-5	PW-6	Total/NA	Water	ELLE SOP	313156
410-100723-6	SBW	Total/NA	Water	ELLE SOP	313156
410-100723-7	FB-1	Total/NA	Water	ELLE SOP	313156
MB 410-313156/1-A	Method Blank	Total/NA	Water	ELLE SOP	313156
LCS 410-313156/2-A	Lab Control Sample	Total/NA	Water	ELLE SOP	313156
LCSD 410-313156/3-A	Lab Control Sample Dup	Total/NA	Water	ELLE SOP	313156
410-100723-1 MS	PW-2 MS	Total/NA	Water	ELLE SOP	313156
410-100723-1 MSD	PW-2 MSD	Total/NA	Water	ELLE SOP	313156

Prep Batch: 313156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Total/NA	Water	NONE	
410-100723-2	PW-1	Total/NA	Water	NONE	
410-100723-3	PW-7	Total/NA	Water	NONE	
410-100723-4	PW-7 DUP	Total/NA	Water	NONE	
410-100723-5	PW-6	Total/NA	Water	NONE	
410-100723-6	SBW	Total/NA	Water	NONE	
410-100723-7	FB-1	Total/NA	Water	NONE	
MB 410-313156/1-A	Method Blank	Total/NA	Water	NONE	
LCS 410-313156/2-A	Lab Control Sample	Total/NA	Water	NONE	
LCSD 410-313156/3-A	Lab Control Sample Dup	Total/NA	Water	NONE	
410-100723-1 MS	PW-2 MS	Total/NA	Water	NONE	
410-100723-1 MSD	PW-2 MSD	Total/NA	Water	NONE	

LCMS

Prep Batch: 323977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Post-Treatment	Water	TOP Post Prep	
410-100723-2	PW-1	Post-Treatment	Water	TOP Post Prep	
410-100723-3	PW-7	Post-Treatment	Water	TOP Post Prep	
410-100723-4	PW-7 DUP	Post-Treatment	Water	TOP Post Prep	
410-100723-5	PW-6	Post-Treatment	Water	TOP Post Prep	
410-100723-6	SBW	Post-Treatment	Water	TOP Post Prep	
410-100723-7	FB-1	Post-Treatment	Water	TOP Post Prep	
MB 410-323977/1-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
MB 410-323977/2-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
LCS 410-323977/3-A	Lab Control Sample	Post-Treatment	Water	TOP Post Prep	
LCSD 410-323977/4-A	Lab Control Sample Dup	Post-Treatment	Water	TOP Post Prep	

Analysis Batch: 325086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Post-Treatment	Water	537 TOP	323977
410-100723-2	PW-1	Post-Treatment	Water	537 TOP	323977
410-100723-3	PW-7	Post-Treatment	Water	537 TOP	323977
410-100723-4	PW-7 DUP	Post-Treatment	Water	537 TOP	323977
410-100723-5	PW-6	Post-Treatment	Water	537 TOP	323977
410-100723-6	SBW	Post-Treatment	Water	537 TOP	323977
410-100723-7	FB-1	Post-Treatment	Water	537 TOP	323977
MB 410-323977/1-A	Method Blank	Post-Treatment	Water	537 TOP	323977
MB 410-323977/2-A	Method Blank	Post-Treatment	Water	537 TOP	323977
LCS 410-323977/3-A	Lab Control Sample	Post-Treatment	Water	537 TOP	323977
LCSD 410-323977/4-A	Lab Control Sample Dup	Post-Treatment	Water	537 TOP	323977

Analysis Batch: 325510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Post-Treatment	Water	Total PFCA-Sum	
410-100723-1	PW-2	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-2	PW-1	Post-Treatment	Water	Total PFCA-Sum	
410-100723-2	PW-1	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-3	PW-7	Post-Treatment	Water	Total PFCA-Sum	
410-100723-3	PW-7	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-4	PW-7 DUP	Post-Treatment	Water	Total PFCA-Sum	
410-100723-4	PW-7 DUP	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-5	PW-6	Post-Treatment	Water	Total PFCA-Sum	
410-100723-5	PW-6	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-6	SBW	Post-Treatment	Water	Total PFCA-Sum	
410-100723-6	SBW	Pre-Treatment	Water	Total PFCA-Sum	
410-100723-7	FB-1	Post-Treatment	Water	Total PFCA-Sum	
410-100723-7	FB-1	Pre-Treatment	Water	Total PFCA-Sum	

Analysis Batch: 325512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-1	PW-2	Total/NA	Water	Total PFCA-Dif	
410-100723-2	PW-1	Total/NA	Water	Total PFCA-Dif	
410-100723-3	PW-7	Total/NA	Water	Total PFCA-Dif	
410-100723-4	PW-7 DUP	Total/NA	Water	Total PFCA-Dif	
410-100723-5	PW-6	Total/NA	Water	Total PFCA-Dif	
410-100723-6	SBW	Total/NA	Water	Total PFCA-Dif	

LCMS (Continued)

Analysis Batch: 325512 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-100723-7	FB-1	Total/NA	Water	Total PFCA-Dif	

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: PW-2

Lab Sample ID: 410-100723-1
Date Collected: 10/04/22 10:00
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 01:06
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 21:27
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/02/22 19:34
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Client Sample ID: PW-1

Lab Sample ID: 410-100723-2
Date Collected: 10/04/22 11:20
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 01:39
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:00
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/02/22 23:42
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Client Sample ID: PW-7

Lab Sample ID: 410-100723-3
Date Collected: 10/04/22 11:55
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 01:50
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:11
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 00:17
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: PW-7 DUP

Lab Sample ID: 410-100723-4

Date Collected: 10/04/22 12:00
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 02:01
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:22
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 00:52
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Client Sample ID: PW-6

Lab Sample ID: 410-100723-5

Date Collected: 10/04/22 12:45
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 02:12
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:33
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 01:28
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Client Sample ID: SBW

Lab Sample ID: 410-100723-6

Date Collected: 10/04/22 13:30
Matrix: Water
Date Received: 10/06/22 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 02:34
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:44
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 02:03
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Lab Chronicle

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Client Sample ID: FB-1

Date Collected: 10/04/22 12:55
Date Received: 10/06/22 09:50

Lab Sample ID: 410-100723-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Pre-Treatment	Prep	TOP Pre - Prep			305007	K9VR	ELLE	10/10/22 18:35
Pre-Treatment	Analysis	537 IDA		1	308596	UUV6	ELLE	10/21/22 02:45
Post-Treatment	Prep	TOP Post Prep			323977	S7AC	ELLE	12/06/22 07:34
Post-Treatment	Analysis	537 TOP		1	325086	MT26	ELLE	12/08/22 22:55
Total/NA	Prep	NONE			313156	F9DU	ELLE	11/02/22 11:57
Total/NA	Analysis	ELLE SOP		1	312663	F9DU	ELLE	11/03/22 03:49
Total/NA	Analysis	Total PFCA-Dif		1	325512	MT26	ELLE	12/09/22 12:59
Post-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56
Pre-Treatment	Analysis	Total PFCA-Sum		1	325510	MT26	ELLE	12/09/22 12:56

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

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	01-31-23

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
537 TOP	TOP Post Prep	Water	4:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	6:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	8:2 Fluorotelomer sulfonic acid
537 TOP	TOP Post Prep	Water	NEtFOSAA
537 TOP	TOP Post Prep	Water	NMeFOSAA
537 TOP	TOP Post Prep	Water	Perfluorobutanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorobutanoic acid
537 TOP	TOP Post Prep	Water	Perfluorodecanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorodecanoic acid
537 TOP	TOP Post Prep	Water	Perfluorododecanoic acid
537 TOP	TOP Post Prep	Water	Perfluoroheptanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluoroheptanoic acid
537 TOP	TOP Post Prep	Water	Perfluorohexanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorohexanoic acid
537 TOP	TOP Post Prep	Water	Perfluorononanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorononanoic acid
537 TOP	TOP Post Prep	Water	Perfluorooctanesulfonamide
537 TOP	TOP Post Prep	Water	Perfluorooctanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluorooctanoic acid
537 TOP	TOP Post Prep	Water	Perfluoropentanesulfonic acid
537 TOP	TOP Post Prep	Water	Perfluoropentanoic acid
537 TOP	TOP Post Prep	Water	Perfluorotetradecanoic acid
537 TOP	TOP Post Prep	Water	Perfluorotridecanoic acid
537 TOP	TOP Post Prep	Water	Perfluoroundecanoic acid
ELLE SOP	NONE	Water	Adsorbable Organic Fluorine (AOF)
Total PFCA-Dif		Water	PFBA
Total PFCA-Dif		Water	PFHpA
Total PFCA-Dif		Water	PFHxA
Total PFCA-Dif		Water	PFNA
Total PFCA-Dif		Water	PFOA
Total PFCA-Dif		Water	PFPA
Total PFCA-Dif		Water	Total PFCA
Total PFCA-Sum		Water	PFBA
Total PFCA-Sum		Water	PFHpA
Total PFCA-Sum		Water	PFHxA
Total PFCA-Sum		Water	PFNA
Total PFCA-Sum		Water	PFOA
Total PFCA-Sum		Water	PFPA
Total PFCA-Sum		Water	Total PFCA

Method Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Method	Method Description	Protocol	Laboratory
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
537 TOP	Fluorinated Alkyl Substances	EPA	ELLE
ELLE SOP	Total or Organic Fluorine by Combustion Ion Chromatography	ELLE - Lancaster	ELLE
Total PFCA-Dif	Total PFCA (Treatment Difference)	TAL SOP	ELLE
Total PFCA-Sum	Total PFCA (Summary)	TAL SOP	ELLE
NONE	Preparation, Fluorine	ELLE - Lancaster	ELLE
TOP Post Prep	Solid-Phase Extraction (SPE)	SW846	ELLE
TOP Pre - Prep	Solid-Phase Extraction (SPE)	SW846	ELLE

Protocol References:

ELLE - Lancaster = Eurofins Lancaster, Facility Standard Operating Procedure.

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Michael Baker International, Inc.
Project/Site: Saegertown PFAS Site

Job ID: 410-100723-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-100723-1	PW-2	Water	10/04/22 10:00	10/06/22 09:50
410-100723-2	PW-1	Water	10/04/22 11:20	10/06/22 09:50
410-100723-3	PW-7	Water	10/04/22 11:55	10/06/22 09:50
410-100723-4	PW-7 DUP	Water	10/04/22 12:00	10/06/22 09:50
410-100723-5	PW-6	Water	10/04/22 12:45	10/06/22 09:50
410-100723-6	SBW	Water	10/04/22 13:30	10/06/22 09:50
410-100723-7	FB-1	Water	10/04/22 12:55	10/06/22 09:50

410-100723 Chain of Custody

s Environme

Chain of Custody Record

eurofins Environment Testing America

Sampler: Brad Mikula	Lab PM: Zanar, Elizabeth M	Carrier Tracking No(s):	COC No: 410-65242-18747.2
Client Contact: Mr. Chris Kupfer	Phone: 814-241-5054	E-Mail: Elizabeth.Zanar@et.eurofinsus.com	State of Origin: PA	Page: Page 1 of 1
Company: Michael Baker International, Inc.	PWSID:		Job #:
Address: Airside Business Park 100 Airside Drive	Due Date Requested: Standard		
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: ckupfer@mbakerintl.com	WO #:		
Project Name: Saegertown PFAS Site	Project #: 41012247		
Site: Saegertown 189432	SSOW#:		

Analysis Requested

Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

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)	537_IDA_TOPS - TOP (Post-Ox) 24 PFAS	CIC_Fluorine - Absorbable Organic Fluorine	PFC_IDA - 24 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	L	N	N		
PW-2	10/4/22	1000	G	Water	N	N	X	X	X		
PW-2 MS		1000		Water		Y					
PW-2 MSD		1000		Water		Y					
PW-1		1120		Water		N					
PW-7		1155		Water		N					
PW-7 DUP		1200		Water		N					
PW-6		1245		Water		N					
SBW		1330		Water		N					
FB-1		1255		Water		N					
				Water							
				Water							

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
Brad Mikula Blair	10/4/22 1600	MBI			
				10/6/22 0950	

Custody Seals Intact: ☒ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.7 2.8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Michael Baker International, Inc.

Job Number: 410-100723-1

Login Number: 100723
List Number: 1
Creator: McCaskey, Jonathan

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

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.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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.	True	
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	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

ATTACHMENT C

Waste Disposal Manifests

Invoice: 898547 Receipt 02-00 633072 Cod COD #3

US ecology CERTIFICATE OF DISPOSAL

This certificate is to verify the wastes specified on Manifest # 022291143JJK

have been properly disposed of in accordance with all local, state and federal regulation.

"Disposed of" means either: 1) Burial or 2) Processed as specified in 40CFR et sea.

FACILITY NAME: (Please check one)

☐ Michigan Disposal Waste Treatment Plant (EPA I.D. # MID000724831)

☐ Wayne Disposal, Inc. (EPA I.D. # MID048090633)

ADDRESS: 49350 N. I-94 Service Drive
Bellville, Michigan 48111

PHONE NUMBER: 1-800-592-5489

FAX NUMBER: 1-800-593-5329

Authorized Signature: _____

FORM #REC-FM-029-BEL

The electronic version of this document is the controlled version. Each user is responsible for ensuring that any document being used is the current version.

6/12/17

16758014

R.41

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ~~NOT REQUIRED~~ /NA
2. Page 1 of 1
3. Emergency Response Phone: 724-568-3623
4. Manifest Tracking Number: 022291143 JJK

5. Generator's Name and Mailing Address
PA Dept. of Environemental Protection
230 Chestnut Street
Meadville, PA 16335
Generator's Phone: 814-332-6945

Generator's Site Address (if different than mailing address)
PA DEP- Saegerstown PFAS Site
603 Erie Street
Saegertown, PA 16433

6. Transporter 1 Company Name: McCutcheon Enterprises Inc.
U.S. EPA ID Number: PAD013826847

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Michigan Disposal Waste Treatment Plant
49350 North I-94 Service Drive
Belleville, MI 4811
Facility's Phone: 800-592-5489
U.S. EPA ID Number: MID000724831

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non DOT / Non RCRA Material Groundwater with PFAS (MI-029L - PA 420 PFAS)	002	DM	~~ES~~ 80	G	MI-029L PA-420
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
9.1) A23-8001-MDI
9.2)
9.3)
9.4)
In case of an emergency contact MEI @ 724-568-3623
All Weights Are Estimated.
MEI JWO#: JWO0300095

15. 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. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Jus Rupp for PAUER
Signature: X
Month 1 Day 18 Year 23

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. X
Port of entry/exit:
Transporter signature (for exports only):
Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Brown
Signature:
Month 1 Day 18 Year 23
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H140 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Amalia Anderson
Signature:
Month 1 Day 30 Year 23

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

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