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SITE CHARACTERIZATION REPORT

DOT&PF Statewide PFAS
ANC Fire Training Pit

ANCHORAGE INTERNATIONAL AIRPORT, ANCHORAGE, ALASKA; ADEC FILE NO. 2100.38.028.26, HAZARD ID: 414

SHANNON & WILSON

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Submitted To: Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501
Attn: Mr. Bill O'Connell

Subject: SITE CHARACTERIZATION REPORT, DOT&PF STATEWIDE PFAS ANC FIRE TRAINING PIT , ANCHORAGE INTERNATIONAL AIRPORT, ANCHORAGE, ALASKA; ADEC FILE NO. 2100.38.028.26, HAZARD ID: 414

This report presents the results of Shannon & Wilson's site characterization activities conducted at the Ted Stevens Anchorage International Airport (ANC) Fire Training Pit in Anchorage, Alaska. Shannon & Wilson participated in this project as a consultant for the Alaska Department of Environmental Conservation (ADEC). Our scope of services was specified in our November 2022, *DOT&PF Statewide PFAS ANC Fire Training Pit Site Characterization Work Plan.* The project was performed under our Alaska Department of Transportation and Public Facilities (ADOT&PF) Per- and Polyfluoroalkyl Substance (PFAS) Related Environmental & Engineering Services Term Contract PSA No. 25-19-1-013. Authorization to proceed with the project was received on November 9, 2022 with Notice to Proceed Number P15-2.

If you have any questions or comments regarding this report, please contact Dan McMahon or the undersigned at (907) 561-2120.

Sincerely,

SHANNON & WILSON, INC.

Alec Rizzo
Environmental Staff

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ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFFF	Aqueous film forming foam
AK	Alaska Method
ANC	Ted Stevens Anchorage International Airport
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CSM	Conceptual site model
DO	Dissolved Oxygen
DRO	Diesel range organics
DQO	Data quality objective
EPA	Environmental Protection Agency
Eurofins	Eurofins TestAmerica
FBI	Federal Bureau of Investigation
GAC	Granulated activated carbon
Geotek	Geotek Alaska Inc.
GRO	Gasoline range organics
HDPE	High-density polyethylene
IDW	Investigation derived waste
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate
LDRCs	Laboratory data review checklists
LOQ	Limit of quantitation
Mammoth	Mammoth Consulting, LLC
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
MOA	Municipality of Anchorage
MS/MSD	Matrix spike/matrix spike duplicate
MWs	Groundwater monitoring wells
NGSD-29	National Geodetic Vertical Datum of 1929
NTU	Nephelometric Turbidity Units
ORP	Oxidation Reduction Potential
OWS	Oil/water separator
PAHs	Polynuclear aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
PFC	Perfluorinated compounds
PFOA	Perfluorooctanoic acid

ACRONYMS

PFOS	Perfluorooctanesulfonic acid
pg/g	Picogram per gram
PPE	Personal protective equipment
PVC	Polyvinyl chloride
QEP	Qualified environmental professional
QSM	Quality Systems Manual
RPD	Relative percent difference
RRO	Residual range organics
SGS	SGS North America Inc.
VOCs	Volatile organic compounds

1 INTRODUCTION

Shannon & Wilson is pleased to submit this report presenting the results of the site characterization activities performed at the former fire training pit site, located south of Runway 6R at the Ted Stevens Anchorage International Airport (ANC) in Anchorage, Alaska. The site is an Alaska Department of Environmental Conservation (ADEC) contaminated site, and is identified as "AIA Fire Training Pit," under File No. 2100.38.028.26 and Hazard ID 414. A vicinity map is included as Figure 1.

1.1 Purpose and Objectives

The project objectives were to sample surface soil, subsurface soil, sediment, surface water, and groundwater to further evaluate the extent of per- and polyfluoroalkyl substances (PFAS) and petroleum-related contamination in the vicinity of the fire training area. The information primarily will be used to evaluate the fate and transport of PFAS resulting from the use of aqueous film forming foam (AFFF).

1.1.1 Site Location and Boundaries

The ANC fire training area is located south of Runway 6R and Airport Maintenance Road (Figure 1). A lined fire training pit is located on the southeast portion of the facility. The geographic coordinates of the ANC fire training area are latitude 61.1658, longitude -150.0079. Liquid which accumulates in the fire training pit discharges via buried piping to a lined aeration/settling pond to the northwest. The aeration/settling pond discharges to an oil/water separator (OWS), which subsequently discharges via a culvert to a drainage ditch, which parallels Airport Maintenance Road. Surface water in the drainage ditch flows approximately 4,200 feet west, until it is diverted north approximately 2,200 feet beneath Runway 7R and Taxiway K, until is diverted west where it ultimately discharges into the Cook Inlet. According to ANC, the fire training pit and OWS effluents are currently closed, preventing the discharge of water to the drainage ditch.

An aircraft mockup, which was used for fire training exercises is located north of the fire training pit. A shooting range and a building used by the Federal Bureau of Investigations (FBI) are located to the west of the fire training pit.

The project area also includes the area south of the fire training area, which encompasses approximately 100 acres. This area is primarily vegetated and is bound by Raspberry Road to the south, South Airport to the east, and vegetated land to the west.

1.2 Geology

The ANC is located in the western portion of Anchorage, along the eastern shore of Upper Cook Inlet. The Anchorage area consists primarily of broad outwash plains, flood plains, stream terraces, and tidal plains. Most landforms in the area have been influenced by glaciations and many are mantled by loess deposits. Soil parent materials include sandy and gravelly glacial outwash, and loamy and gravelly glacial drift. The tidal plains along Cook Inlet consist of silty and clayey sediments. Poorly drained bogs and fens occupy broad depressions and occur throughout the ANC.

Sediments known as the Bootlegger Cove formation underlie most of the area at depths between 0 and 200 feet below ground surface (bgs). These sediments are mostly silt with up to 5 percent clay minerals. During development of the ANC area beginning in the 1950s, low-lying lands were drained and filled for commercial and residential use. The ANC is located in a natural lowland area with elevations generally less than 200 feet above mean sea level and containing numerous lakes and muskegs. (DOT&PF, 2020).

1.3 Groundwater

According to the August 2004 *Final Airport-Wide Risk Management Plan* prepared by Shaw Environmental, Inc., three distinct water bearing zones are present within the ANC. A deep aquifer, greater than 150 feet bgs, an upper aquifer from 50 feet to 70 feet bgs, and a series of shallow discontinuous aquifers that in some locations reach the ground surface. Groundwater flow direction varies throughout the ANC relative to topography and proximity to lakes, but it generally flows to the northwest toward Cook Inlet (USGS, 1995; DOT&PF, 2020).

2 BACKGROUND

In 1970 the fire training facility was constructed. Between 1970 and 1989 fire training was conducted in unlined depressions and other areas at the site. AFFF was used during the fire training exercises. Until 1984, burned liquids included waste oil, fuel, waste solvents, and alcohol, which were stored onsite in drums and tanks. After 1984, fuel was purchased for use during the training exercises. In 1990, the fire training facility was upgraded to include a lined fire training area and a wastewater treatment system, which included a lined aeration/settling pond and an OWS. Reportedly, the fire training pit was last used for firefighting training in 2018.

The ADEC Contaminated Sites Program published groundwater-cleanup levels of 0.400 micrograms per liter (µg/L) for perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in November 2016. Prior to the publication of these levels, there were no state-level cleanup levels established for PFAS. On October 2, 2019, ADEC published a Technical Memorandum amending the April 9, 2019 Technical Memorandum to include additional PFAS analytes to the testing requirements. Current ADEC soil cleanup levels are 0.0030 micrograms per kilogram (mg/kg) for PFOS and 0.0017 mg/kg for PFOA.

2.1 Previous Investigations

The ADEC opened the "AIA Fire Training Pit" contaminated site in 1988 (ADEC File Number 2100.38.028.26, Hazard ID 414). Between 1984 and 1991 site characterization and cleanup activities were conducted at the site. Three groundwater monitoring wells were installed at the site in 1989. During these activities, petroleum-impacted soil and groundwater was identified at the site. In addition, a soil sample collected in 1984 contained a concentration of polychlorinated biphenyls (PCBs) exceeding the ADEC cleanup level. In 1996, an additional well was installed northwest of the new fire training pit.

The site was granted "Conditional Closure" by the ADEC in 2006. At this time, it was noted that contaminated soil remained at the site. As a condition of closure, the ADEC required long-term groundwater monitoring of the on-site monitoring wells. The wells were periodically sampled for gasoline range organics (GRO); diesel range organics (DRO); and benzene, toluene, ethylbenzene, and xylenes (BTEX) through 2012. Surface water samples were also periodically collected from a drainage ditch located north of the fire training area. During several of the events the surface water samples contained concentrations of DRO exceeding the ADEC Table C cleanup levels. By 2012 the concentrations of GRO, DRO, and BTEX were less than the ADEC Table C cleanup levels in the samples collected from the monitoring wells. In 2013 the wells were decommissioned and the ADEC removed the Institutional Controls, which required groundwater sampling.

In 2016, the ADEC requested that ANC conduct an airport-wide perfluorinated compounds (PFC) investigation. As part of these requested activities, Monitoring Well MW-04 was installed west of the OWS. Samples collected from the wells contained concentrations of PFOA and PFOS less than the applicable action levels. In 2020, a sample collected from water which had accumulated in the fire training pit contained concentrations of PFAS compounds. In April 2022, the ADEC re-opened the contaminated site due to "an unacceptable risk due to the presence of PFAS contamination".

According to the ADEC's Division of Spill Prevention and Response, three reported spills have occurred at the site. Each of the spills is listed as "Case Closed, No Further Action". The spills include:

- The "TSAIA Firefighting Training Pit AFFF" spill (Spill No. 19239914201) occurred on May 22, 2019. According to the Spill Notification Form, approximately 50 gallons of AFFF/water was released to the fire training pit while testing firefighting equipment. It was estimated that the release consisted of 3 percent AFFF and 97 percent water.

- The "AK DOT Firefighting Truck AFFF Release" spill (Spill No. 20239910001) occurred on April 10, 2020. Reportedly, the AFFF system of an ANC response truck accidentally charged. As a result, approximately 4,200 gallons of water mixed with 10 gallons of ANSULITE 3% FREEZE PROTECTED AFFF Foam Concentrate. The truck contents were discharged to the fire training pit.

- The "TSAIA Crash Truck AFFF Release" spill (Spill No. 20239922701) occurred on August 13, 2020, when the AFFF system of an ANC response truck accidentally charged. Reportedly, approximately 4,200 gallons of water mixed with 10 gallons of ANSULITE 3% FREEZE PROTECTED AFFF Foam Concentrate. The truck contents were discharged to the fire training pit.

3 PROJECT ACTIVITIES

The project activities consisted of advancing soil borings, installing groundwater monitoring wells (MWs), collecting surface water, sediment, soil, and groundwater samples, laboratory analysis of samples, and disposal of investigation-derived waste (IDW). The site characterization activities were performed in accordance with the conditions of our DOT&PF Professional Services Agreement Number 25-19-1-013 *Per- and Polyfluoroalkyl Substance Related Environmental & Engineering Services*, 18 Alaska Administrative Code (AAC) 75, and the ADEC *Field Sampling Guidance*.

Shannon & Wilson provided Qualified Environmental Professionals (QEP), as defined by 18 AAC 75.333, to conduct and document the field work. Geotek Alaska Inc. (Geotek) provided the equipment and personnel to advance the borings and install the groundwater monitoring wells. The analytical soil and groundwater samples were submitted to SGS North America Inc. (SGS) and Eurofins TestAmerica (Eurofins) for laboratory analysis. US Ecology disposed of the IDW for the project. Mammoth Consulting LLC (Mammoth) surveyed the locations of the borings and monitoring wells. Site photographs and copies of

field notes are included in Appendices A and B, respectively. Boring logs are provided in Appendix C. It should be noted that the field notes presented in Appendix B are provided for informational purposes only. Tables 1 through 6, and the boring logs presented in Appendix C, represent our interpretation of the field data and take precedence over the field notes.

The following borings and monitoring wells were outlined in our work plan and were completed as part of the 2023 site characterization activities:

- Three borings completed as monitoring wells (Borings/Wells SB1/B1MW, SB2/B2MW, and SB3/B3MW) were installed in the vicinity of the ANC fire training area, and completed in the shallow aquifer;
- Two soil borings (Borings SB4 and SB5) were advanced to approximately 32 feet bgs in the vicinity of the ANC fire training area;
- One soil boring (Boring SB6) was advanced to the shallow aquifer, southeast of the ANC fire training area;
- Two soil borings were completed as temporary MWs (Borings SB8/B8TMW and SB9/B9TMW) and were installed south/southeast of the ANC fire training area, and completed at the shallow aquifer; and
- One boring completed as a MW (Boring/Well SB11/B11MW) was installed southeast of the ANC fire training area, and completed within the deeper aquifer.

In addition to sampling the borings and newly installed monitoring wells, a pre-existing monitoring well (Well MW-04) located to the west of the OWS was sampled (Figure 2). Five surface water (Samples SW1 through SW5) and sediment (Samples SD1 through SD5) samples were collected from the drainage ditch located west/northwest of the ANC fire training area. A surface water sample (Sample SW6) and a sediment sample (Sample SD6) was collected from the fire training pit. In addition, surface water samples (Sample SW7 and SW8) were collected from the aeration/settling pond and a pond located south of the ANC fire training area, respectively. The surface water and sediment sample locations are shown on Figure 3.

3.1 Work Plan Modifications

The project was conducted in general accordance with our ADEC-approved work plan dated November 2022 except for the following scope changes. The scope changes were implemented due to conditions encountered in the field and were approved by the ADEC prior to conducting the modified work.

- Monitoring B3MW could not be developed or sampled due to the lack of water column encountered in the well;
- Boring SB6 was completed as Temporary Monitoring Well TMW6;
- Boring SB10 was not advanced;
- Boring/Temporary Monitoring Well SB7/TMW7 was not advanced/installed; and
- Borings SB12 and SB13 were advanced south of the fire training pit and completed as Wells B12MW and B13MW in the shallow aquifer.

3.2 Soil Borings and Sampling

Shannon & Wilson scheduled utility locates using the Alaska Digline prior to drilling activities. GeoTek advanced the soil borings at each subsurface location (Figure 2). A Geoprobe direct-push drill rig was used to advance Borings SB1 through SB6, SB8, SB9, SB12, and SB13. Borings SB4 and SB5 were terminated at 32 feet bgs. Borings SB1 through SB5 were advanced in February 2023 and Borings SB6, SB8, SB9, SB12, and SB13 were advanced in August 2023. Soil borings completed as MWs or temporary MWs were terminated approximately 5 feet below the groundwater table to install the MWs or temporary MWs.

In July 2023, a Geoprobe Sonic 8140LS drill rig was used to advance Boring SB11, which was completed as Well B11MW. The sonic head advanced 4-inch and 6-inch diameter heavy duty rods, equipped with a drill bit, through an application of down pressure, rotation, and sonic vibration sent to the bit through the sonic rods. Once advanced 10 feet, the lead rod was retracted from the ground and the sample was extruded in a bag by vibrating it out with the sonic head. PFAS-free water was used when getting the tools back to sample depth to assist with keeping any borehole collapse from slowing down tool advancement. This process was repeated in 10-foot increments. The water generated during the drilling process was discharged to the ground surface adjacent to the boring.

In accordance with our work plan, analytical soil samples were collected from Borings SB1, SB2, SB3, SB6, SB8, and SB9 from 0 to 2 feet bgs, 10 to 12 feet bgs, 20 to 22 feet bgs, 50 to 52 feet bgs, and the soil/groundwater interface. Analytical soil samples were also collected from 0 to 2 feet bgs, 10 to 12 feet bgs, 20 to 22 feet bgs, and 30 to 32 feet bgs in Borings SB4 and SB5. In addition, soil samples were collected from the "shallow" and "deep" soil/water interfaces in Boring SB11.

The soil samples tested for volatile constituents were collected using methanol preservation. In accordance with the method, at least 25 grams of soil was quickly placed into a laboratory supplied 4-ounce jar that had been pre-weighed. Afterward, 25 milliliters of reagent grade methanol were added to submerge the soil. The methanol extracts the hydrocarbons from the soil at the time of sampling, thereby reducing the possible loss of volatile constituents prior to sample analysis. The sample jars for non-volatile analyses were collected after the volatile analysis jars. All samples were transferred to the appropriate laboratory supplied jars using decontaminated stainless-steel spoons, and transferred to the laboratory in coolers with ice packs using chain-of-custody procedures.

3.3 Monitoring Well Installation, Development, and Sampling

The MWs were installed as described in the ADEC *Monitoring Well Guidance* (2013) and our work plan. The wells were constructed with two-inch inside-diameter schedule 40 polyvinyl chloride (PVC) material and have a 10-foot section of 0.010-inch pre-packed screen and threaded end caps. The filter pack around the screened intervals is 20/40 rounded silica sand and extends at least 2 feet above the top of the screen. The grout seal above the sand pack is at least five feet of bentonite chips, hydrated in place. For the Well B11MW within the "deeper" aquifer, the grout seal extended approximately 5 feet above the shallow aquifer to prevent potential cross contamination of the "deeper" aquifer from the shallow aquifer. Drill cuttings were placed above the grout seal.

Excess drill cuttings generated while drilling Borings SB6, SB8, SB9, SB11, SB12, and SB13 were landspread adjacent to the borings. Excess drill cutting generated while drilling Borings SB1 through SB5 were containerized and handled in accordance with Section 3.8.

Wells B1MW, B2MW, B12MW, and B13MW were completed as stick-up wells within steel monuments. At the request of ANC, Well B3MW was completed with a flushmount protective casing. Protective bollards were placed around Wells B1MW, B2MW, B12MW, and B13MW.

Shannon & Wilson field staff developed the wells to remove sediment and to allow for hydraulic connection to the aquifer prior to collecting groundwater samples. To allow time for annular-seal materials to set, development occurred no sooner than 24 hours after installation was complete. The monitoring wells were developed using a submersible pump or Waterra (Well B11MW) and a combination of surging and purging. During the development of the wells, water quality parameters (temperature, specific conductivity, pH, oxidation reduction potential [ORP], dissolved oxygen [DO] and/or turbidity), and purge volume were collected to evaluate the effectiveness of the development process. The water quality instruments were calibrated prior to use, using the manufacturer's instructions. The

non-disposable equipment that comes into contact with groundwater was decontaminated prior to use with a non-phosphate detergent wash, a tap water rinse, and a distilled-water rinse. Monitoring Wells B1MW, B2MW, B3MW, B12MW, and B13MW purged dry during development. Development was considered complete for each well after of three hours of effort. Monitoring well B3MW could not be developed due to the lack of water column encountered in the well. Development water was treated and disposed of in accordance with Section 3.8. Well construction and installation information were recorded on the Monitoring Well Construction Details form and are presented in Table 2.

The newly installed wells were allowed to recharge to 80 percent of the original water volume before sample collection. Water samples were obtained from the screened portion of the well using a either a submersible pump or Waterra with dedicated disposable tubing. Analytical samples were collected by transferring water directly from the pump tubing into the laboratory supplied containers. The sample jars were filled in decreasing order of volatility.

In addition to the newly installed monitoring wells, pre-existing Well MW-04 was sampled. Groundwater samples were collected using a low-flow sampling method. The submersible pump was placed within 2 feet of the surface of the groundwater column or within the screened portion of the well. The pump rate was adjusted with a goal of limiting the sustained water drawdown to a maximum of 0.3 foot. During the purging process, field personnel monitored water quality parameters and purge volume. Purging was considered complete when at least one well volume was removed, and water quality parameters stabilized. Water quality parameters were considered stabilized when three consecutive measurements collected 3 to 5 minutes apart indicate that at least four of the five parameters were within the following tolerance ranges: pH within 0.1 unit, temperature within 3 percent, conductivity within 3 percent, and turbidity within 10 percent or less than 10 nephelometric turbidity units (NTU).

3.4 Temporary Monitoring Well Installation and Sampling

Borings SB6, SB8, and SB9 were completed as temporary MWs B6TMW, B8TMW, and B9TMW, respectively. The temporary MWs were constructed of 1-inch nominal inside diameter 40 PVC pipe with threaded connections. The lower portion of the wells consisted of an approximately 10-foot section of 0.010-inch slotted well screen. The screen extended approximately 5-feet below the soil/groundwater interface. The temporary wells were left undisturbed for at least 1 hour to allow groundwater to accumulate. Prior to sampling, depth-to-water, with respect to the ground surface, was measured with an electronic water

level indicator. Grab groundwater samples were collected with disposable polyethylene bailers from the temporary wells.

Following sampling, the temporary wells were removed and the hole was backfilled with a combination of drill cuttings and bentonite chips above the groundwater table to two feet bgs, and topped with pea gravel.

3.5 Surface Water Sampling

Surface water samples were collected from the drainage ditch (SW1 through SW5) that parallels Airport Maintenance Road, the aeration/settling pond (Sample SW7), and the surface water body south of the fire training area (Sample SW8). The approximate locations of the surface warer samples are shown on Figure 3. Shannon & Wilson collected the surface water samples at least 48 hours after precipitation to prevent potential dilution effects. Samples were collected once disturbed solids settled to the bottom or have moved down stream. A clean, PFAS-free disposable sample container was used to collect the surface water sample and then transferred in laboratory provided high-density polyethylene (HDPE) bottles.

3.6 Sediment Sampling

Sediment samples were collected at the locations of surface water samples SW1 through SW6. The approximate locations of the sediment samples are shown on Figure 3. Shannon & Wilson collected the sediment samples using a shovel, collecting soil beneath the vegetation layer, if present. Shannon & Wilson drained away excess water from the sample and placed the remaining solid material in a laboratory-provided sampling container.

3.7 Professional Survey

The horizontal and vertical locations of MWs B1MW, B2MW, B3MW, B11MW, B12MW, B13MW, and pre-existing Well MW-04 were surveyed by Mammoth. In addition, the horizontal locations of Borings SB4, SB5, SB6, SB8, and SB9 were surveyed. The survey was conducted by Mammoth on August 28, 2023. Horizontal locations are in Alaska State Plane coordinates, Zone 4, North American Datum of 1983; and elevations are based on the National Geodetic Vertical Datum of 1929 (NGSD-29), Municipality of Anchorage (MOA) 1972 adjusted. Elevations were measured at the ground surface, the top of the well monuments, and at the top of the monitoring well casings, to a resolution of 0.01 feet. A copy of the survey is provided in Appendix D.

3.8 Investigation-Derived Waste Disposal

IDW consisted of soil cuttings, decontamination and purge water, personal protective equipment (PPE), and disposable sampling equipment. PPE and disposable sampling equipment were collected into plastic garbage bags and disposed of as general municipal waste. The soil cuttings from Borings SB1 through SB5 were containerized in 18 labeled 55-gallon drums and were disposed of by US Ecology on October 5, 2023. The disposal documents are provided in Appendix E.

Drilling equipment was decontaminated on site by Geotek in a lined decontamination area which was constructed onsite. Purge water and decontamination fluids used to clean drill tooling and sampling equipment were inspected for a petroleum sheen. Since no sheen was noted, the fluids were treated with a granulated activated carbon (GAC) system containing six GAC filters capable of treating petroleum hydrocarbons and PFAS constituents and discharged to the ground surface within the site boundaries and a minimum of 100 feet away from drinking water wells and surface water. An effluent sample was collected following treatment of all potentially contaminated purge and development water. Analytical results of the effluent system are provided in Section 6.

Other investigation-derived waste including non-reusable equipment such as nitrile gloves, sample tubing, and temporary well casings were disposed of at the Anchorage Regional Landfill.

4 LABORATORY ANALYSES

Each PFAS sample was submitted to Eurofins and analyzed for PFAS by Quality Systems Manual (QSM) 5.3 Table B-15. Soil samples collected from Borings SB1 through SB5 at 0 to 2 feet bgs and 10 to 12 feet bgs were also analyzed for GRO by Alaska Method (AK) 101, DRO by AK 102, residual range organics (RRO) by AK 103, volatile organic compounds (VOCs) by environmental protection agency (EPA) Method 8260D, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D SIM, PCBs by EPA Method 8082, and dioxins by EPA Method 8290A. The samples were submitted to the laboratories using chain-of-custody procedures.

5 SUBSURFACE CONDITIONS

The subsurface soil at the site generally consists of sand with varying amounts of gravel, and silt to silt with varying amounts of sand and gravel. For borings advanced in the

vicinity of the fire training area, the shallow groundwater aquifer was encountered at approximately 65 feet bgs (Borings SB3 and SB12) to 75 feet bgs (Boring SB6). For borings advanced south of fire training area (SB8, SB9, and SB11), the shallow groundwater aquifer was encountered at approximately 38 feet bgs in Boring SB8, 112 feet bgs in Boring SB9, and 107 feet bgs in Boring SB11. The deeper groundwater aquifer was encountered in Boring SB11 at approximately 130 feet bgs. The measured static depth to water in the Wells B1MW, B2MW, B3MW, B12MW, and B13MW ranged from 63.32 feet bgs in Well B12MW to 68.90 feet bgs in Well B3MW.

Groundwater elevations were calculated for the groundwater monitoring wells (Wells B1MW, B2MW, B3MW, B12MW, and B13MW) completed in the shallow groundwater aquifer, using the groundwater measurements collected on September 11, 2023 and the results of Mammoth's survey conducted on August 28, 2023. The calculated groundwater elevations ranged from 24.47 to 27.91 feet and were inconsistent across the site. As a result, the site's groundwater gradient was not calculated. As shown on Figure 4, groundwater flow direction is generally west, with variations to the northwest and south/southwest.

6 DISCUSSION OF ANALYTICAL RESULTS

The analytical results were compared to ADEC cleanup levels presented in the October 2023, 18 AAC 75 regulations. The applicable soil criteria consist of the most stringent ADEC Method Two cleanup levels listed in Tables B1 and B2 of 18 AAC 75.341, for the "over 40-inch (precipitation) zone". Groundwater cleanup levels are established in Table C of 18 AAC 75.345. The sediment and surface water results were compared to the soil and groundwater cleanup levels, respectively. The applicable cleanup levels are listed in Tables 3 through 6. The laboratory reports and Laboratory Data Review Checklists (LDRCs) are included in Appendix F.

6.1 Soil Samples

6.1.1 Non-PFAS Compounds

Non-PFAS analytes were tested in samples collected from Borings SB1 through SB5. The sample collected from Boring SB3 from 10.0 to 12.0 feet bgs contained concentrations of GRO (maximum 531 J+ mg/kg), DRO (maximum 1,420 mg/kg), benzene (maximum 0.0851 J mg/kg), ethylbenzene (maximum 3.22 mg/kg), total xylenes (maximum 10.2 mg/kg), 1,2,4-trimethylbenzene (maximum 14.5 mg/kg), 1,3,5-trimethylbenzene (maximum 5.91 mg/kg), naphthalene (maximum 7.94 mg/kg), 1-methylnaphthalene (maximum 6.45 mg/kg), and 2-methylnaphthalene (maximum 9.67 mg/kg) exceeding the ADEC Method Two cleanup

levels of 300 mg/kg, 250 mg/kg, 0.022 mg/kg, 0.13 mg/kg, 1.5 mg/kg, 0.61 mg/kg, 0.66 mg/kg, 0.038 mg/kg, 0.41 mg/kg, and 1.3 mg/kg, respectively. Dioxins (0.04 picograms per gram [pg/g]) were detected in a sample collected from Boring SB3 from 0.0 to 2.0 feet bgs at a concentration less than the ADEC Method Two cleanup level of 3.9 pg/g. The remaining tested analytes were either not detected or were detected at concentrations less than the ADEC Method Two cleanup levels. The analytical soil results are presented in Table 3.

6.1.2 PFAS

Apart from Boring SB9, each boring contained detectable concentrations of PFAS. The concentrations of PFOA detected in Borings SB1 (maximum 0.130 mg/kg), SB2 (0.049 mg/kg), SB3 (maximum 0.039 mg/kg), SB4 (maximum 0.019 mg/kg), SB5 (maximum 0.032 mg/kg) are greater than the ADEC Method Two cleanup level of 0.0017 mg/kg. The concentrations of PFOS detected in Borings SB1 (maximum 0.260 mg/kg), SB2 (maximum 0.490 mg/kg), SB3 (maximum 0.170 mg/kg), SB4 (maximum 0.074 mg/kg), and SB5 (maximum 0.330 mg/kg) are greater than the ADEC Method Two cleanup level of 0.0030 mg/kg. PFOS and PFOA were either not detected or were detected at concentrations less than the ADEC Method Two cleanup levels in the remaining samples. There were also detectable concentrations of 10 additional PFAS constituents in at least one sample. These analytes do not have ADEC Method Two cleanup levels. The analytical soil results are presented in Table 3.

6.2 Groundwater Samples

6.2.1 Non-PFAS Compounds

Non-PFAS analytes were tested in the samples collected from Wells B1MW and B2MW. DRO (1,610 B µg/L) and RRO (1,120 B µg/L) were detected in Sample B1MW at concentrations exceeding the ADEC Table C cleanup levels of 1,500 µg/L and 1,100 µg/L, respectively. In addition, chloromethane and ten PAH analytes were detected in at least one sample at concentrations less than the ADEC Table C cleanup levels. The remaining analytes were not detected. The analytical groundwater results are presented in Table 4.

6.2.2 PFAS

The samples collected from each monitoring well and temporary monitoring well had detectable concentrations of PFAS analytes. Sample B1MW contained concentrations of PFOA (5.1 µg/L) and PFOS (1.2 µg/L) greater than the ADEC Table C cleanup levels of 0.400 µg/L. The PFOS and PFOA detections in the remaining water samples were either not detected or were detected at concentrations less than the ADEC Table C cleanup levels. There were detectable concentrations of eight additional PFAS constituents in at least one

sample. These analytes do not have ADEC Table C cleanup levels. The effluent GAC sample contained a detectable concentration of perfluorohexanoic acid (0.00050 J µg/L). This analyte does not have an ADEC Table C cleanup level. The analytical groundwater results are presented in Table 4.

6.3 Surface Water Samples

Each surface water sample contained detectable concentrations of PFAS. Samples SW6 (13.0 µg/L) and SW7 (14.0 µg/L) contained concentrations of PFOA greater than the ADEC Table C groundwater cleanup level of 0.400 µg/L. Samples SW1 (1.2 µg/L), SW2 (1.1 µg/L), SW3 (0.860 µg/L), SW4 (0.850 µg/L), SW5 (maximum 0.520 µg/L), SW6 (130.0 µg/L), and SW7 (97.0 µg/L) contained concentrations of PFOS greater than the ADEC Table C cleanup level of 0.400 µg/L. The remaining PFOS and PFOA detections were reported at concentrations less than the ADEC Table C groundwater cleanup levels. There were also detectable concentrations of six additional PFAS constituents in each surface water sample. These analytes do not have ADEC Table C groundwater cleanup levels. The analytical surface water results are presented in Table 5.

6.4 Sediment Samples

Each sediment sample contained detectable concentrations of PFAS. Sample SD6 (0.016 J+ mg/kg) contained a concentration of PFOA greater than the ADEC Method Two soil cleanup level of 0.0017 mg/kg. Samples SD1 (0.049 J+ mg/kg), SD2 (0.022 J+ mg/kg), SD3 (0.0076 J+ mg/kg), SD4 (0.019 J+ mg/kg), SD5 (maximum 0.033 J+ mg/kg), and SD6 (1.2 J+ mg/kg) contained concentrations of PFOS greater than the ADEC Method Two soil cleanup level of 0.0030 mg/kg. The remaining PFOS and PFOA detections were reported at concentrations less than the ADEC Method Two soil cleanup levels. There were also detectable concentrations of nine additional PFAS constituents in at least one sample. These analytes do not have ADEC Method Two soil cleanup levels. The analytical sediment results are presented in Table 6.

6.5 Quality Assurance Summary

The project laboratory follows on-going quality assurance/quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQOs). Internal laboratory controls to assess data quality for this project include surrogates, method blanks, matrix spike/matrix spike duplicates (MS/MSD), and laboratory control sample/laboratory control sample duplicates (LCS/LCSD) to assess precision, accuracy, and matrix bias. If a DQO was not met, the project laboratory provides a brief narrative concerning the problem in the case narrative of their laboratory reports (see Appendix F).

Field quality control samples included two trip blanks, five field duplicate soil sample sets, three field duplicate groundwater sample sets, one field duplicate surface water sample set, one field duplicate sediment sample set, six equipment blanks, and seven field blanks. Laboratory-prepared soil and water trip blank samples accompanied the project sample bottles from the laboratory to the site during sampling activities and back again to SGS. The soil and water trip blanks did not contain detectable concentrations of GRO or VOCs. Trip blanks check for sample-contamination issues during the sample collection process.

Although less than the limit of quantitation (LOQ), samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. GRO in Samples SB1S1, SB1S2, SB2S1, SB2S2, SB3S1, SB4S1, SB4S2, SB5S1, SB5S2, FB1, and TB1 were reported at levels less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 3. The remaining GRO concentrations are greater than 10 times the blank concentration, therefore the results are reported at the detected concentration.

DRO in Samples SB1S1, SB2S2, SB4S2, SB5S2 were reported at levels less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 3. The concentration of DRO detected in Sample SB3S1 is greater than the LOQ but less than 5 times the blank concentration, therefore the results are flagged "B" and reported as non-detect at the detected concentration. The concentrations of DRO detected in Samples SB1S2, SB2S1, and SB5S1 are within 5 and 10 times the blank concentration, therefore the results are flagged "B" and reported at the detected concentration. The remaining DRO concentrations are greater than 10 times the blank concentration, therefore the results are reported at the detected concentration.

An estimated concentration of perfluorohexanoic acid was detected in the project soil method blank. Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. The concentration of perfluorohexanoic acid in Sample SB11S1 was less than the LOQ; therefore, the results are reported as non-detect at the LOQ and flagged "B" in Table 3.

An estimated concentration of PFOS (0.000124 mg/kg) was detected in a project soil method blank. In addition, an estimated concentration of hexafluoropropylene oxide dimer acid (0.00157 µg/L) was detected in a project groundwater method blank. Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. The concentration of PFOS in Samples SB6S1, SB12S3, and SB13S3 are less than 5 times the method blank detection; therefore, the sample concentrations are "B" flagged in Table 3 and reported as non-detect at the reported concentration. The concentration of PFOS in Sample SB13S1 is greater than 5 times the

method blank detection, but less than 10 times the method blank detection; therefore, the sample concentration is "B" flagged in Table 3 at the reported concentration. The concentration of PFOS in Sample SB12S1 is greater than 10 times the method blank detection. Therefore, the analytical results are considered unaffected by the method blank detection and the result is reported at the detected value. For the groundwater method blank, hexafluoropropylene oxide dimer acid was not detected in the affected sample. Therefore, flagging is not required.

Although less than the LOQs, estimated concentrations of DRO (0.491 J µg/L) and RRO (0.284 J µg/L) were detected in the method blanks. Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. The concentrations of DRO and RRO detected in all project samples are greater than the LOQ but less than 5 times the blank concentration, therefore the results are flagged "B" and reported as non-detect at the detected concentration in Table 4.

An estimated concentration of 4,8-Dioxa-3H-perfluorononanoic acid (0.552 J µg/L) was detected in the project groundwater method blank. Although less than the LOQ, samples are flagged "B" in Table 4 when the reported sample concentration is within 10x the reported method blank concentration. The analyte was not detected in the project sample; therefore, no flagging is required.

The project laboratory indicated several MS/MSD, LCS/LCSD, and surrogate accuracy/precision QC failures in the laboratory reports. The affected results are either flagged "J+" in Tables 3, 4, and 6 to represent a potential high bias.

The relative percent difference (RPD) between the project sample and associated duplicate results is a measure of precision affected by matrix heterogeneity, sampling technique, and laboratory analyses. The ADEC recommends an RPD of less than 50 percent for duplicate soil samples and 30% for duplicate groundwater samples. The RPDs for duplicate sample set B2MW/B12MW for benzo(a)anthracene, benzo(a)pyrene, benzo[b]fluoranthene, chrysene, and pyrene were greater than QC criteria and are flagged "E" in Table 3. The remaining duplicate sample sets were within QC criteria.

Duplicate Samples B2MW/B12MW and B11MW were analyzed outside of the analytical method hold time. In addition, Sample B11MW arrived at the laboratory outside of QC criteria for temperature. Although these errors occurred, Shannon & Wilson does not believe it grossly affects the data.

Shannon & Wilson conducted a limited data assessment to review the laboratory's compliance with precision, accuracy, sensitivity, and completeness to the data quality objectives. Shannon & Wilson reviewed the SGS data deliverables and completed the ADEC's Laboratory Data Review Checklist for each data package, which is included in Appendix F. No non-conformances that would adversely affect the data quality or usability of the data were noted.

7 CONCEPTUAL SITE MODEL

The following conceptual site model (CSM) was prepared to identify known and potential exposure pathways at the site. The CSM was developed using the ADEC's guidance CSM Scoping Form and Graphic Form, which are included as Appendix G.

7.1 Description of Potential Receptors

The CSM considers commercial/industrial workers, site visitors, and construction workers to be current and/or future potential receptors.

7.2 Potential Exposure Pathways

Discussions of the potential exposure pathways are provided below. The narrative includes descriptions of site-specific considerations that increase or decrease the viability of each pathway at the site. Potential human exposure pathways include direct contact of soil, ingestion of groundwater, inhalation of indoor and outdoor air, dermal exposure of contaminants in groundwater and surface water, direct contact with contaminated sediment, and inhalation of fugitive dust.

Note this CSM reflects only the known, documented contaminants of concern, and should be revised as warranted if additional site assessments are conducted to address data gaps regarding the nature and/or extent of impacted media.

7.2.1 Soil

Incidental ingestion, dermal absorption of contaminants from soil, and inhalation of fugitive dust are considered potential current and future exposure pathways for soil. Concentrations of GRO, DRO, benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, PFOS, and/or PFOA were detected in soil samples exceeding ADEC Method Two cleanup levels. Potential receptors include current and/or future commercial/industrial workers, site visitors, and construction workers.

7.2.2 Groundwater

Concentrations of DRO, RRO, PFOS and PFOA were detected in Well B1MW at concentrations exceeding the ADEC Table C cleanup criteria. The remaining analytes were either reported at concentrations below the ADEC cleanup criteria or were reported as non-detect. It is noted that ANC does not permit the installation of drinking water wells at the airport. ADEC regulation stipulates groundwater must be considered a future potential drinking water source; therefore, ingestion and dermal absorption of groundwater are considered potentially complete exposure pathways for future commercial/industrial workers, site visitors, trespassers, and/or construction workers. In 2001, the ADEC approved a "Section 350 Determination" for the upper unconfined aquifer at ANC in the airside and commercial zones, which includes the majority of the ANC property. The "Section 350 Determination" establishes that the groundwater at ANC is not a current or future drinking water source.

7.2.3 Surface Water, Sediment, and Biota

Based on 2023 analytical results, surface water and sediment within the project area is impacted with PFAS contaminants. Apart from surface water Sample SW8, PFAS contaminants exceeding the ADEC cleanup criteria were encountered at each surface water/sediment sample location. Potential receptors include commercial/industrial workers, site visitors, and/or construction workers.

In addition, due to the bioaccumulative risk of PFAS, biota is considered a potential pathway for exposure. Our site assessment activities are not designed to assess the biota exposure pathway. However, we understand the State of Alaska is conducting sampling at various PFAS sites to investigate this pathway.

8 CONCLUSIONS

The project consisted of advancing soil borings, installing six groundwater monitoring wells, installing three temporary monitoring wells and collecting analytical soil, groundwater, sediment, and surface water samples.

Results of the characterization efforts identified GRO, DRO, benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene contamination exceeding the ADEC Method Two cleanup levels in Boring SB3. In addition, concentrations of PFOS and PFOA exceeding ADEC Method Two cleanup levels were reported in soil samples from Borings SB1, SB2, SB3, SB4, and SB5.

DRO, RRO, PFOS, and PFOA were detected in groundwater Sample B1MW at concentrations exceeding the ADEC Table C cleanup levels. The remaining petroleum analytes, PFOS, and PFOA detections in Wells B2MW, B11MW, B12MW, and B13MW, and Temporary Wells B6TMW, B8TMW, and B9TMW, were either reported at concentrations below the ADEC Table C cleanup level or reported as non-detect.

The samples collected from each surface water/sediment sample location had detectable concentrations of PFAS. Surface water Samples SW1, SW2, SW3, SW4, SW5, SW6, and SW7 had concentrations of PFOA and/or PFOS greater than the ADEC Table C cleanup level. Sediment Samples SD1, SD2, SD3, SD4, SD5, and SD6 had concentrations of PFOA and/or PFOS greater than the ADEC Method Two cleanup level.

9 RECOMMENDATIONS

Based on the results of the site characterization efforts we recommend the following actions.

- Decommission the fire training pit and associated infrastructure to prevent further releases from the contaminated water and sediment present within the system.
- Collect additional subsurface soil and groundwater samples to delineate the extent of PFAS-impacted soil and groundwater.
- Conduct further characterization of the drainage ditches between the OWS discharge and the Cook Inlet.
- Collect periodic groundwater samples from the existing groundwater monitoring wells.
- Decommission any groundwater monitoring wells which are deemed unnecessary.

10 REFERENCES

Alaska Department of Environmental Conservation (ADEC), 2023a, 18 AAC 75, Oil and Other Hazardous Substances Pollution Control: Juneau, Alaska, Alaska Administrative Code (AAC), Title 18, Chapter 75, October, available: http://dec.alaska.gov/commish/regulations/.

Alaska Department of Environmental Conservation (ADEC), 2023b, 18 AAC 75.345, Groundwater Cleanup Levels: Juneau, Alaska, Alaska Administrative Code (AAC), Title 18, Chapter 75, Section 341, October, available: http://dec.alaska.gov/commish/regulations/.

Alaska Department of Environmental Conservation (ADEC), 2023c, 18 AAC 75.341, Soil Cleanup Levels: Juneau, Alaska, Alaska Administrative Code (AAC), Title 18, Chapter 75, Section 341, October, available: http://dec.alaska.gov/commish/regulations/.

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Shaw Environmental, Inc., 2004, Final Airport-Wide Risk Management Plan, Ted Stevens Anchorage International Airport: Report prepared by Shaw Environmental, Inc., Anchorage, Alaska, August 2004.

U.S. Geology Survey (USGS), 1995, Overview of Environmental and Hydrologic Conditions at Three Federal Aviation Administration Facilities Near Anchorage International Airport, Anchorage, Alaska: Report prepared by USGS, Anchorage, Alaska, 1995.

11 CLOSURE/LIMITATIONS

This report is prepared for the exclusive use of our client and their representatives in the study of this site. The findings presented within this report are based on the limited research, sampling, and analyses that were conducted. They should not be construed as definite conclusions regarding the site's soil or groundwater quality. As a result, the sampling, analyses, and data interpretations can provide you with only our professional judgment as to the environmental characteristics of this site, and in no way guarantee that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. The data presented in this report should be considered representative of the time of our release investigation activities. Changes in site conditions can occur over time, due to natural forces or human activity. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

You are advised that various state and federal agencies (ADEC, EPA, etc.) may require the reporting of this information. Shannon & Wilson does not assume the responsibility for

reporting these findings and therefore has not, and will not, disclose the results of this study unless specifically requested and authorized by ADEC, or as required by law.

Shannon & Wilson has prepared the information in Appendix H, "Important Information About Your Geotechnical/Environmental Report," to assist you and others in understanding the use and limitations of our report.

TABLE 1 - SAMPLE DETAILS

	Sample ID	Date	Sample Location (See Figures 2 and 3)	Depth (feet bgs)
	Soil Samples			
	Boring SB1			
*	SB1S1	2/20/2023	Boring SB1, Sample S1	0.0-2.0
*	SB1S2	2/20/2023	Boring SB1, Sample S2	10.0-12.0
*	SB1S3	2/20/2023	Boring SB1, Sample S3	20.0-22.0
*	SB1S4	2/20/2023	Boring SB1, Sample S4	50.0-52.0
*	SB1S5	2/20/2023	Boring SB1, Sample S5	65.0-67.0
	Boring SB2			
*	SB2S1	2/21/2023	Boring SB2, Sample S1	0.0-2.0
*	SB2S2	2/21/2023	Boring SB2, Sample S2	10.0-12.0
*	SB2S12	2/21/2023	Duplicate of Sample SB2S2	10.0-12.0
*	SB2S3	2/21/2023	Boring SB2, Sample S3	20.0-22.0
*	SB2S4	2/21/2023	Boring SB2, Sample S4	50.0-52.0
	SB2S5	2/21/2023	Boring SB2, Sample S5	60.0-65.0
	SB2S6	2/21/2023	Boring SB2, Sample S6	65.0-70.0
	SB2S7	2/21/2023	Boring SB2, Sample S7	70.0-75.0
*	SB2S8	2/21/2023	Boring SB2, Sample S8	75.0-80.0
	Boring SB3			
*	SB3S1	2/22/2023	Boring SB3, Sample S1	0.0-2.0
*	SB3S2	2/22/2023	Boring SB3, Sample S2	10.0-12.0
*	SB3S12	2/22/2023	Duplicate of Sample SB3S2	10.0-12.0
*	SB3S3	2/22/2023	Boring SB3, Sample S3	20.0-22.0
*	SB3S4	2/22/2023	Boring SB3, Sample S4	50.0-52.0
	SB3S5	2/22/2023	Boring SB3, Sample S5	60.0-65.0
*	SB3S6	2/23/2023	Boring SB3, Sample S6	65.0-70.0
	SB3S7	2/23/2023	Boring SB3, Sample S7	70.0-75.0
	Boring SB4			
*	SB4S1	2/23/2023	Boring SB4, Sample S1	0.0-2.0
*	SB4S11	2/23/2023	Duplicate of Sample SB4S1	0.0-2.0
*	SB4S2	2/23/2023	Boring SB4, Sample S2	10.0-12.0
*	SB4S3	2/23/2023	Boring SB4, Sample S3	20.0-22.0
*	SB4S4	2/23/2023	Boring SB4, Sample S4	30.0-32.0
	Boring SB5			
*	SB5S1	2/23/2023	Boring SB5, Sample S1	0.0-2.0
*	SB5S11	2/23/2023	Duplicate of Sample SB5S1	0.0-2.0
*	SB5S2	2/23/2023	Boring SB5, Sample S2	10.0-12.0
*	SB5S3	2/23/2023	Boring SB5, Sample S3	20.0-22.0
*	SB5S4	2/23/2023	Boring SB5, Sample S4	30.0-32.0
	Boring SB6			
*	SB6S1	8/8/2023	Boring SB6, Sample S1	0.0-2.0
	SB6S2	8/8/2023	Boring SB6, Sample S2	5.0-10.0
*	SB6S3	8/8/2023	Boring SB6, Sample S3	10.0-12.0
	SB6S4	8/8/2023	Boring SB6, Sample S4	15.0-20.0
*	SB6S5	8/8/2023	Boring SB6, Sample S5	20.0-22.0
	SB6S6	8/8/2023	Boring SB6, Sample S6	25.0-30.0
	SB6S7	8/8/2023	Boring SB6, Sample S7	30.0-35.0
	SB6S8	8/8/2023	Boring SB6, Sample S8	35.0-40.0
	SB6S9	8/8/2023	Boring SB6, Sample S9	40.0-45.0
	SB6S10	8/8/2023	Boring SB6, Sample S10	45.0-50.0

See Page 4 for Notes

TABLE 1 - SAMPLE DETAILS

	Sample ID	Date	Sample Location (See Figures 2 and 3)	Depth (feet bgs)
	Boring SB6 (continued)			
*	SB6S11	8/8/2023	Boring SB6, Sample S11	50.0-52.0
	SB6S12	8/8/2023	Boring SB6, Sample S12	55.0-60.0
	SB6S13	8/8/2023	Boring SB6, Sample S13	60.0-65.0
	SB6S14	8/8/2023	Boring SB6, Sample S14	65.0-69.0
	SB6S15	8/8/2023	Boring SB6, Sample S15	70.0-75.0
*	SB6S16	8/8/2023	Boring SB6, Sample S16	73.0-75.0
*	SB6S26	8/8/2023	Duplicate of Sample SB6S16	73.0-75.0
	Boring SB8			
*	SB8S1	8/4/2023	Boring SB8, Sample S1	0.0-2.0
	SB8S2	8/4/2023	Boring SB8, Sample S2	5.0-10.0
*	SB8S3	8/4/2023	Boring SB8, Sample S3	10.0-12.0
	SB8S4	8/4/2023	Boring SB8, Sample S4	15.0-20.0
*	SB8S5	8/4/2023	Boring SB8, Sample S5	20.0-22.0
	SB8S6	8/4/2023	Boring SB8, Sample S6	25.0-30.0
	SB8S7	8/4/2023	Boring SB8, Sample S7	30.0-35.0
*	SB8S8	8/4/2023	Boring SB8, Sample S8	36.0-38.0
	SB8S9	8/4/2023	Boring SB8, Sample S9	40.0-45.0
	SB8S10	8/4/2023	Boring SB8, Sample S10	45.0-50.0
	Boring SB9			
*	SB9S1	8/2/2023	Boring SB9, Sample S1	0.0-2.0
	SB9S2	8/2/2023	Boring SB9, Sample S2	5.0-10.0
*	SB9S3	8/2/2023	Boring SB9, Sample S3	10.0-12.0
	SB9S4	8/2/2023	Boring SB9, Sample S4	15.0-20.0
*	SB9S5	8/2/2023	Boring SB9, Sample S5	20.0-22.0
	SB9S6	8/2/2023	Boring SB9, Sample S6	25.0-30.0
	SB9S7	8/2/2023	Boring SB9, Sample S7	30.0-35.0
	SB9S8	8/2/2023	Boring SB9, Sample S8	35.0-40.0
	SB9S9	8/2/2023	Boring SB9, Sample S9	40.0-45.0
	SB9S10	8/2/2023	Boring SB9, Sample S10	45.0-50.0
*	SB9S11	8/2/2023	Boring SB9, Sample S11	50.0-52.0
	SB9S12	8/2/2023	Boring SB9, Sample S12	55.0-60.0
	SB9S13	8/2/2023	Boring SB9, Sample S13	60.0-65.0
	SB9S14	8/2/2023	Boring SB9, Sample S14	65.0-70.0
	SB9S15	8/2/2023	Boring SB9, Sample S15	70.0-75.0
	SB9S16	8/2/2023	Boring SB9, Sample S16	75.0-80.0

See Page 4 for Notes

TABLE 1 - SAMPLE DETAILS

	Sample ID	Date	Sample Location (See Figures 2 and 3)	Depth (feet bgs)
	Boring SB9 (continued)			
	SB9S17	8/2/2023	Boring SB9, Sample S17	80.0-85.0
	SB9S18	8/2/2023	Boring SB9, Sample S18	85.0-90.0
	SB9S19	8/2/2023	Boring SB9, Sample S19	90.0-95.0
	SB9S20	8/3/2023	Boring SB9, Sample S20	95.0-100.0
	SB9S21	8/3/2023	Boring SB9, Sample S21	100.0-105.0
	SB9S22	8/3/2023	Boring SB9, Sample S22	105.0-110.0
*	SB9S23	8/3/2023	Boring SB9, Sample S23	110.0-112.0
*	SB9S33	8/3/2023	Duplicate of Sample SB9S23	110.0-112.0
	Boring SB11			
*	SB11S1	7/6/2023	Boring SB11, Sample S1	0.0-2.0
*	SB11S2	7/6/2023	Boring SB11, Sample S2	10.0-12.0
*	SB11S3	7/6/2023	Boring SB11, Sample S3	20.0-22.0
*	SB11S4	7/6/2023	Boring SB11, Sample S4	50.0-52.0
*	SB11S5	7/7/2023	Boring SB11, Sample S5	150.0-152.0
*	SB11S15	7/7/2023	Duplicate of Sample SB11S5	150.0-152.0
	Boring SB12			
*	SB12S1	8/7/2023	Boring SB12, Sample S1	0.0-2.0
	SB12S2	8/7/2023	Boring SB12, Sample S2	5.0-10.0
*	SB12S3	8/7/2023	Boring SB12, Sample S3	10.0-12.0
	SB12S4	8/7/2023	Boring SB12, Sample S4	15.0-20.0
*	SB12S5	8/7/2023	Boring SB12, Sample S5	20.0-22.0
	SB12S6	8/7/2023	Boring SB12, Sample S6	25.0-30.0
	SB12S7	8/7/2023	Boring SB12, Sample S7	30.0-35.0
	SB12S8	8/7/2023	Boring SB12, Sample S8	35.0-40.0
	SB12S9	8/7/2023	Boring SB12, Sample S9	40.0-45.0
	SB12S10	8/7/2023	Boring SB12, Sample S10	45.0-50.0
*	SB12S11	8/7/2023	Boring SB12, Sample S11	50.0-52.0
	SB12S12	8/7/2023	Boring SB12, Sample S12	55.0-60.0
*	SB12S13	8/7/2023	Boring SB12, Sample S13	63.0-65.0
	SB12S14	8/7/2023	Boring SB12, Sample S14	65.0-70.0
	Boring SB13			
*	SB13S1	8/7/2023	Boring SB13, Sample S1	0.0-2.0
	SB13S2	8/7/2023	Boring SB13, Sample S2	5.0-10.0
*	SB13S3	8/7/2023	Boring SB13, Sample S3	10.0-12.0
	SB13S4	8/7/2023	Boring SB13, Sample S4	15.0-20.0
*	SB13S5	8/7/2023	Boring SB13, Sample S5	20.0-22.0
	SB13S6	8/7/2023	Boring SB13, Sample S6	25.0-30.0
	SB13S7	8/7/2023	Boring SB13, Sample S7	30.0-35.0
	SB13S8	8/7/2023	Boring SB13, Sample S8	35.0-40.0
	SB13S9	8/7/2023	Boring SB13, Sample S9	40.0-45.0
	SB13S10	8/7/2023	Boring SB13, Sample S10	45.0-50.0
*	SB13S11	8/7/2023	Boring SB13, Sample S11	50.0-52.0
	SB13S12	8/7/2023	Boring SB13, Sample S12	55.0-60.0
	SB13S13	8/7/2023	Boring SB13, Sample S13	60.0-65.0
	SB13S14	8/7/2023	Boring SB13, Sample S14	65.0-70.0
*	SB13S15	8/8/2023	Boring SB13, Sample S15	71.0-73.0
*	SB13S25	8/8/2023	Duplicate of Sample SB13S15	71.0-73.0
	SB13S16	8/8/2023	Boring SB13, Sample S16	75.0-80.0

See Page 4 for Notes

TABLE 1 - SAMPLE DETAILS

	Sample ID	Date	Sample Location (See Figures 2 and 3)	Depth (feet bgs)
	Sediment Samples			
*	SD1	6/6/2023	Sediment Sample SD1	0.0-0.5
*	SD2	6/6/2023	Sediment Sample SD2	0.0-0.5
*	SD3	6/6/2023	Sediment Sample SD3	0.0-0.5
*	SD4	6/6/2023	Sediment Sample SD4	0.0-0.5
*	SD5	6/6/2023	Sediment Sample SD5	0.0-0.5
*	SD15	6/6/2023	Duplicate of Sample SD5	0.0-0.5
*	SD6	6/6/2023	Sediment Sample SD6	0.0-0.5
*	SD7	6/6/2023	Sediment Sample SD7	0.0-0.5
	Surface Water Samples			
*	SW1	6/6/2023	Surface Water Sample SW1	-
*	SW2	6/6/2023	Surface Water Sample SW2	-
*	SW3	6/6/2023	Surface Water Sample SW3	-
*	SW4	6/6/2023	Surface Water Sample SW4	-
*	SW5	6/6/2023	Surface Water Sample SW5	-
*	SW15	6/6/2023	Duplicate of Sample SW5	-
*	SW6	6/6/2023	Surface Water Sample SW6	-
*	SW7	6/6/2023	Surface Water Sample SW7	-
*	SW8	6/6/2023	Surface Water Sample SW8	-
	Groundwater Samples			
*	B1MW	3/16/2023	Monitoring Well B1MW	64.38
*	B2MW	3/17/2023	Monitoring Well B2MW	65.09
*	B12MW	3/17/2023	Duplicate of Sample B2MW	65.09
*	B6TMW	8/8/2023	Temporary Monitoring Well B6TMW	71.90
*	B16TMW	8/8/2023	Duplicate of Sample B6TMW	71.90
*	B8TMW	8/5/2023	Temporary Monitoring Well B8TMW	38.09
*	B9TMW	8/4/2023	Temporary Monitoring Well B9TMW	112.25
*	B11MW	7/20/2023	Monitoring Well B11MW	105.53
*	B12MW	8/17/2023	Monitoring Well B12MW	63.32
*	B13MW	8/22/2023	Monitoring Well B13MW	70.33
*	MW-04	8/22/2023	Monitoring Well MW-04	65.43
	Quality Control Samples			
*	GAC	8/22/2023	Effluent GAC Sample	
*	EB	3/16/2023	Equipment Blank	
*	EB1	2/22/2023	Equipment Blank	
*	EB2	2/23/2023	Equipment Blank	
*	EB2	8/22/2023	Equipment Blank	
*	EB3	8/7/2023	Equipment Blank	
*	EB4	8/9/2023	Equipment Blank	
*	FB1	2/23/2023	Field Blank	
*	FB2	2/23/2023	Field Blank	
*	FB2	8/22/2023	Field Blank	
*	FB3	8/3/2023	Field Blank	
*	FB4	8/9/2023	Field Blank	
*	TB1	2/23/2023	Soil Trip Blank	
*	WTB	3/16/2023	Water Trip Blank	

Notes:

*	= Sample analyzed by project laboratory (See Tables 3 through 6)
-	= Not applicable
bgs	= Below ground surface
BTOC	= Below top of casing
ppm	= parts per million

TABLE 2 - MONITORING WELL DEVELOPMENT AND SAMPLING LOG

	Monitoring Wells							Temporary Monitoring Wells		
	B1MW	B2MW	B3MW	B11MW	B12MW	B13MW	MW-04	B6TMW	B8TMW	B9TMW
Development Data										
Development Date	3/14/2023- 3/15/2023	3/14/2023- 3/16/2023	-	7/19/2023	8/17/2023	8/22/2023	-	-	-	-
Measured Depth to Water (ft below TOC)	67.10	68.30	-	107.40	65.98	73.10	-	-	-	-
Total Depth of Well (ft below TOC)	73.52	78.72	-	162.07	72.20	81.40	-	-	-	-
Water Column in Well (ft)	6.42	10.42	-	54.67	6.22	8.30	-	-	-	-
Gallons per Foot	0.17	0.17	-	0.17	0.17	0.17	-	-	-	-
Water Column Volume (gallons)	1.09	1.77	-	9.29	1.06	1.41	-	-	-	-
Total Volume Pumped/Bailed (gallons)	8.15	26.8	-	40.0	8.5	8.5	-	-	-	-
Development Method	Surge Block and Bailer	Surge Block and Bailer	-	Surge Block and Waterra	Surge Block and Submersible Pump	Surge Block and Submersible Pump	-	-	-	-
Water Level Measurement Data										
Date Water Level Measured	9/11/2023	9/11/2023	9/11/2023	7/19/2023	9/11/2023	9/11/2023	8/22/2023	8/9/2023	8/5/2023	8/4/2023
Time Water Level Measured	12:02	11:40	12:15	11:40	12:25	12:32	14:30	14:25	9:18	14:28
Surveyed TOC Elevation (ft)	90.64	95.86	95.42	130.57	90.36	97.39	89.08	96.90	67.52	136.7
Measured Depth to Water (ft below TOC)	66.82	67.95	68.72	107.40	65.78	72.92	65.11	72.90	39.11	113.25
Water Elevation (ft)	23.82	27.91	26.70	23.17	24.58	24.47	23.97	-	-	-
Height of TOC (ft)	2.44	2.86	-0.18	1.87	2.46	2.59	-0.32	1.00	1.02	1.00
Measured Depth to Water (ft bgs)	64.38	65.09	68.90	105.53	63.32	70.33	65.43	71.90	38.09	112.25
Sampling Data										
Date Sampled	3/16/2023	3/17/2023	-	7/20/2023	8/17/2023	8/22/2023	8/22/2023	8/9/2023	8/5/2023	8/4/2023
Time Sampled	10:32	13:30	-	14:25	16:00	14:17	15:36	14:25	9:20	14:30
Measured Depth to Water (ft below TOC)	67.45	68.70	68.72	107.40	65.98	73.10	65.11	72.90	39.11	113.25
Total Depth of Well (ft below TOC)	73.52	78.72	68.80	162.07	72.20	81.40	80.21	81.20	51.02	117.37
Water Column in Well (ft)	6.07	10.02	0.08	54.67	6.22	8.30	15.10	8.30	11.91	4.12
Gallons per Foot	0.17	0.17	0.17	0.17	0.17	0.17	0.17	-	-	-
Water Column Volume (gallons)	1.03	1.70	0.01	9.29	1.06	1.41	2.57	-	-	-
Volume Purged (gallons)	0.6	0.5	-	0.5	0.5	0.5	3	-	-	-
Sampling Method	SP	SP	-	Waterra	SP	SP	SP	Bailer	Bailer	Bailer
Diameter of Well Casing	2-inch	2-inch	2-inch	2-inch	2-inch	2-inch	2-inch	1-inch	1-inch	1-inch
Water Quality Data^										
Temperature (°C)	1.04	2.68	-	6.50	9.74	10.38	9.51	11.30	11.40	12.70
Dissolved Oxygen (mg/L)	6.03	6.43	-	4.39	-	-	-	-	-	-
pH (Standard Units)	6.23	6.26	-	6.67	5.51	6.57	6.89	6.27	5.75	5.69
Specific Conductivity (µS/cm)	670	682	-	409	396	649	985	756	-	797
Oxidation Reduction Potential (mV)	163	134.9	-	32.7	17	-270.2	29.2	-183	-53	-301
Turbidity (NTU)	175.3	116.3	-	20.02	15.02	31.9	16.04	-	-	-
Remarks	Well purged dry during development	Well purged dry during development. Duplicate Sample B12MW	Well purged dry during development. No sample collected due to lack of water column		Well purged dry during development	Well purged dry during development. Duplicate Sample B23MW		Duplicate Sample B16TMW		

Notes:
Water quality parameters were measured with YSI and Hanna Water Quality Instruments

^	= Water quality data at time of sampling
SP	= Submersible pump
TOC	= Top of casing
ft	= Feet
m/V	= Millivolts
mg/L	= Milligrams per liter
NTU	= Nephelometric Turbidity Unit
°C	= Degrees Celsius
µS/cm	= Microsiemens per Centimeter
-	= Not applicable or no measurement
bgs	= Below ground surface

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)										
				Boring SB1					Boring SB2					
				SB1S1	SB1S2	SB1S3	SB1S4	SB1S5	SB2S1	SB2S2	SB2S12~	SB2S3	SB2S4	SB2S8
				0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	65.0-67.0	0.0-2.0	10.0-12.0	10.0-12.0	20.0-22.0	50.0-52.0	75.0-80.0
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	<4.52 B	<6.66 B	-	-	-	<3.24 B	<4.92 B	-	-	-	-
AK 102	Diesel Range Organics (DRO)	250	mg/kg	<22.4 B	**55.8 B**	**-**	**-**	**-**	**70.7 B**	<25.0 B	-	-	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	**111 J**	**760**	**-**	**-**	**-**	**270**	<62.5	-	-	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	<0.0113	<0.0166	-	-	-	<0.00810	<0.0123	-	-	-	-
	Toluene	6.7	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	Ethylbenzene	0.13	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	Xylenes (total)	1.5	mg/kg	<0.068	<0.100	-	-	-	<0.0486	<0.0740	-	-	-	-
	1,2,4-Trimethylbenzene	0.61	mg/kg	<0.0905	<0.133	-	-	-	<0.0650	<0.0985	-	-	-	-
	1,3,5-Trimethylbenzene	0.66	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	4-Isopropyltoluene	-	mg/kg	<0.0725	<0.107	-	-	-	<0.052	<0.0785	-	-	-	-
	Isopropylbenzene (Cumene)	5.6	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	Naphthalene	0.038	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	n-Propylbenzene	9.1	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	sec-Butylbenzene	28	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	tert-Butylbenzene	11	mg/kg	<0.0226	<0.0333	-	-	-	<0.0162	<0.0246	-	-	-	-
	Tetrachloroethene	0.19	mg/kg	<0.0113	<0.0166	-	-	-	<0.0081	<0.0123	-	-	-	-
	Trichloroethene	0.011	mg/kg	<0.00905	<0.0133	-	-	-	<0.0065	<0.00985	-	-	-	-
	Other VOCs	Various	mg/kg	ND	ND	-	-	-	ND	ND	-	-	-	-
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	2-Methylnaphthalene	1.3	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Benzo(a)Anthracene	0.70	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Benzo[a]pyrene	1.5	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Benzo[b]Fluoranthene	15	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Chrysene	600	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Flouranthene	590	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Flourene	36	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Naphthalene	0.038	mg/kg	<0.0112	<0.0276	-	-	-	<0.0565	<0.0126	-	-	-	-
	Phenanthrene	39	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Pyrene	87	mg/kg	<0.0139	<0.0345	-	-	-	<0.0710	<0.0158	-	-	-	-
	Other PAHs	Various	mg/kg	ND	ND	-	-	-	ND	ND	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.0099**	**0.015**	**0.025**	**0.0052**	**0.016**	**0.018**	**0.019**	**0.020**	**0.0016 J**	<0.00025	<0.00024
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.0018**	**0.0055 J**	<0.00024	**0.0034**	<0.00025	**0.0037**	**0.0051**	**0.0033**	<0.0022	<0.00025	<0.00024
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.041**	**0.130**	<0.00024	**0.00016 J**	<0.00025	**0.049**	**0.0026**	**0.030**	<0.0022	<0.00025	<0.00024
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.0013**	**0.0014 J**	<0.00024	<0.00024	<0.00025	**0.00071 J**	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluorodecanoic acid (PFDA)	-	mg/kg	**0.00073 J**	<0.012	<0.00024	<0.00024	<0.00025	**0.00070 J**	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.0012	<0.012	<0.00024	<0.00024	<0.00025	<0.0012	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	<0.0012	<0.012	<0.00024	<0.00024	<0.00025	<0.0012	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.0012	<0.012	<0.00024	<0.00024	<0.00025	<0.0012	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.0012	<0.012	<0.00024	<0.00024	<0.00025	<0.0012	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	**0.00033 J**	<0.012	**0.0022**	**0.0013**	**0.0020**	**0.0026**	**0.0017**	**0.00093 J**	**0.00054 J**	<0.00025	<0.00024
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.045**	**0.120**	**0.000073 J**	**0.00045**	**0.000049 J**	**0.049**	**0.036**	**0.051**	<0.0022	<0.00025	<0.00024
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.260**	**0.080**	<0.00024	<0.00024	<0.00025	**0.490**	<0.00030	**0.150**	<0.0022	<0.00025	<0.00024
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	**0.00016 J**	<0.012	<0.00024	<0.00024	<0.00025	**0.00022 J**	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.0012	<0.012	<0.00024	<0.00024	<0.00025	<0.0012	<0.00030	<0.0011	<0.0022	<0.00025	<0.00024
	Other PFAS Analytes	-	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	ND	ND	-	-	-	ND	ND	-	-	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	0.0	0.0	-	-	-	0.0	0.0	-	-	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)										
				Boring SB3						Boring SB4				
				SB3S1	SB3S2	SB3S12~	SB3S3	SB3S4	SB3S6	SB4S1	SB4S11~	SB4S2	SB4S3	SB4S4
				0.0-2.0	10.0-12.0	10.0-12.0	20.0-22.0	50.0-52.0	65.0-67.0	0.0-2.0	0.0-2.0	10.0-12.0	20.0-22.0	30.0-32.0
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	<3.06 B	**531 J+**	**274 J+**	-	-	-	<3.75 B	-	<4.02 B	-	-
AK 102	Diesel Range Organics (DRO)	250	mg/kg	<36.7 B	**1,420**	**886**	-	-	-	**232**	-	<23.3 B	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	**278**	**161**	**83.6 J**	-	-	-	**3,600**	-	<58.0	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	<0.00765	**0.0721 J**	**0.0851 J**	-	-	-	<0.00940	-	<0.0101	-	-
	Toluene	6.7	mg/kg	<0.0153	<0.113	<0.0995	-	-	-	<0.0188	-	<0.0201	-	-
	Ethylbenzene	0.13	mg/kg	<0.0153	**3.22**	**1.94**	-	-	-	<0.0188	-	<0.0201	-	-
	Xylenes (total)	1.5	mg/kg	<0.0459	**10.2**	**6.32**	-	-	-	<0.0565	-	<0.0605	-	-
	1,2,4-Trimethylbenzene	0.61	mg/kg	<0.061	**14.5**	**8.67**	-	-	-	<0.075	-	<0.0805	-	-
	1,3,5-Trimethylbenzene	0.66	mg/kg	<0.0153	**5.91**	**3.57**	-	-	-	<0.0188	-	<0.0201	-	-
	4-Isopropyltoluene	-	mg/kg	<0.0490	**1.18**	**0.674**	-	-	-	<0.060	-	<0.0645	-	-
	Isopropylbenzene (Cumene)	5.6	mg/kg	<0.0153	**1.30**	**0.810**	-	-	-	<0.0188	-	<0.0201	-	-
	Naphthalene	0.038	mg/kg	<0.0153	**7.94**	**5.58**	-	-	-	<0.0188	-	<0.0201	-	-
	n-Propylbenzene	9.1	mg/kg	<0.0153	**1.97**	**1.33**	-	-	-	<0.0188	-	<0.0201	-	-
	sec-Butylbenzene	28	mg/kg	<0.0153	**1.59**	**0.996**	-	-	-	<0.0188	-	<0.0201	-	-
	tert-Butylbenzene	11	mg/kg	<0.0153	**0.129 J**	**0.0800 J**	-	-	-	<0.0188	-	<0.0201	-	-
	Tetrachloroethene	0.19	mg/kg	<0.00765	**0.0491 J**	**0.0323 J**	-	-	-	<0.00940	-	<0.0101	-	-
	Trichloroethene	0.011	mg/kg	<0.00610	<0.0452	<0.0399	-	-	-	<0.0075	-	<0.00805	-	-
	Other VOCs	Various	mg/kg	ND	ND	ND	-	-	-	ND	-	ND	-	-
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	<0.0705	**6.45**	**6.22 J+**	-	-	-	<0.0745	-	<0.0144	-	-
	2-Methylnaphthalene	1.3	mg/kg	<0.0705	**9.67**	**9.44 J+**	-	-	-	<0.0745	-	<0.0144	-	-
	Benzo(a)Anthracene	0.70	mg/kg	<0.0705	<0.0147	<0.0147	-	-	-	<0.0745	-	**0.00862 J**	-	-
	Benzo[a]pyrene	1.5	mg/kg	<0.0705	<0.0147	<0.0147	-	-	-	<0.0745	-	**0.0108 J**	-	-
	Benzo[b]Fluoranthene	15	mg/kg	**0.0403 J**	<0.0147	<0.0147	-	-	-	<0.0745	-	**0.0131 J**	-	-
	Chrysene	600	mg/kg	<0.0705	<0.0147	<0.0147	-	-	-	**0.0926 J**	-	**0.0108 J**	-	-
	Flouranthene	590	mg/kg	**0.0531 J**	<0.0147	<0.0147	-	-	-	<0.0745	-	**0.0213 J**	-	-
	Flourene	36	mg/kg	<0.0705	**0.245**	**0.232 J+**	-	-	-	<0.0745	-	<0.0144	-	-
	Naphthalene	0.038	mg/kg	<0.0565	**4.03**	**4.04 J+**	-	-	-	<0.060	-	<0.0115	-	-
	Phenanthrene	39	mg/kg	<0.0705	**0.192**	**0.184 J+**	-	-	-	<0.0745	-	**0.0147 J**	-	-
	Pyrene	87	mg/kg	**0.0509 J**	<0.0147	<0.0147	-	-	-	**0.0416 J**	-	**0.0209 J**	-	-
	Other PAHs	Various	mg/kg	ND	ND	ND	-	-	-	ND	-	ND	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.00054**	**0.027**	-	**0.061**	<0.00024	**0.0010**	**0.00076**	**0.00066**	**0.0070**	**0.017**	**0.043**
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.00023**	**0.0041**	-	**0.0060**	<0.00024	**0.00013 J**	**0.00043**	**0.00040**	**0.0093**	**0.00092**	<0.00022
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.00097**	**0.039**	-	**0.010**	<0.00024	**0.00022 J**	**0.0018**	**0.0019**	**0.019**	**0.0029**	**0.0019**
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.00065**	<0.0010	-	**0.00064 J**	<0.00024	<0.00023	**0.0019**	**0.0018**	<0.00023	<0.00026	<0.00022
	Perfluorodecanoic acid (PFDA)	-	mg/kg	**0.0012**	<0.0010	-	<0.0012	<0.00024	<0.00023	**0.0023**	**0.0022**	<0.00023	<0.00026	<0.00022
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00020	<0.0010	-	<0.0012	<0.00024	<0.00023	**0.00026**	**0.00030**	<0.00023	<0.00026	<0.00022
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	**0.000047 J**	<0.0010	-	<0.0012	<0.00024	<0.00023	<0.00021	**0.000066 J**	<0.00023	<0.00026	<0.00022
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00020	<0.0010	-	<0.0012	<0.00024	<0.00023	<0.00021	<0.00021	<0.00023	<0.00026	<0.00022
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00020	<0.0010	-	<0.0012	<0.00024	<0.00023	<0.00021	<0.00021	<0.00023	<0.00026	<0.00022
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	**0.00026**	**0.0010**	-	**0.00065 J**	<0.00024	<0.00023	**0.000059 J**	**0.000050 J**	**0.00042**	**0.0044**	**0.0045**
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.0026**	**0.065**	-	**0.0074**	<0.00024	**0.00036**	**0.0028**	**0.0023**	**0.130**	**0.014**	**0.0019**
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.065**	**0.170**	-	**0.120**	<0.00024	**0.00037**	**0.074**	**0.064**	**0.0052**	<0.00026	**0.000054 J**
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	<0.00020	<0.0010	-	<0.0012	<0.00024	<0.00023	**0.000027 J**	**0.000024 J**	<0.00023	<0.00026	<0.00022
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.00020	<0.0010	-	<0.0012	<0.00024	<0.00023	**0.000059 J**	**0.000071 J**	<0.00023	<0.00026	<0.00022
	Other PFAS Analytes	-	mg/kg	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	ND	ND	ND	-	-	-	ND	-	ND	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	**0.04**	0.0	0.0	-	-	-	0.0	-	0.0	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)											
				Boring SB5					Boring SB6						
				SB5S1	SB5S11~	SB5S2	SB5S3	SB5S4	SB6S1	SB6S3	SB6S5	SB6S11	SB6S16	SB6S26~
				0.0-2.0	0.0-2.0	10.0-12.0	20.0-22.0	30.0-32.0	0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	73.0-75.0	73.0-75.0
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	<2.99 B	-	<3.48 B	-	-	-	-	-	-	-	-
AK 102	Diesel Range Organics (DRO)	250	mg/kg	**103 B**	-	<24.7 B	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	**701**	-	<62.0	-	-	-	-	-	-	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	<0.0075	-	<0.0087	-	-	-	-	-	-	-	-
	Toluene	6.7	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	Ethylbenzene	0.13	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	Xylenes (total)	1.5	mg/kg	<0.0449	-	<0.0520	-	-	-	-	-	-	-	-
	1,2,4-Trimethylbenzene	0.61	mg/kg	<0.0600	-	<0.0695	-	-	-	-	-	-	-	-
	1,3,5-Trimethylbenzene	0.66	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	4-Isopropyltoluene	-	mg/kg	<0.0479	-	<0.0555	-	-	-	-	-	-	-	-
	Isopropylbenzene (Cumene)	5.6	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	n-Propylbenzene	9.1	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	sec-Butylbenzene	28	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	tert-Butylbenzene	11	mg/kg	<0.0149	-	<0.0174	-	-	-	-	-	-	-	-
	Tetrachloroethene	0.19	mg/kg	<0.0075	-	<0.0087	-	-	-	-	-	-	-	-
	Trichloroethene	0.011	mg/kg	<0.006	-	**0.00573 J**	-	-	-	-	-	-	-	-
	Other VOCs	Various	mg/kg	ND	-	ND	-	-	-	-	-	-	-	-
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	2-Methylnaphthalene	1.3	mg/kg	<0.0715	-	**0.00807 J**	-	-	-	-	-	-	-	-
	Benzo(a)Anthracene	0.70	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	1.5	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	15	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Chrysene	600	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Flouranthene	590	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Flourene	36	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	<0.0575	-	**0.00804 J**	-	-	-	-	-	-	-	-
	Phenanthrene	39	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Pyrene	87	mg/kg	<0.0715	-	<0.0154	-	-	-	-	-	-	-	-
	Other PAHs	Various	mg/kg	ND	-	ND	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.017**	**0.011**	**0.010**	**0.00099**	**0.00039**	**0.00031**	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.0037**	**0.0019**	**0.00094**	**0.00023**	**0.00026**	**0.00036**	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.013**	**0.0082**	<0.00023	**0.032**	<0.00023	**0.00012 J**	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.0031**	**0.0016**	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorodecanoic acid (PFDA)	-	mg/kg	**0.00032 J**	**0.00035**	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00098	<0.00021	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	<0.00098	**0.00011 J**	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00098	<0.00021	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00098	**0.000048 J**	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	**0.00089 J**	**0.00053**	**0.0037**	**0.00026**	**0.000064 J**	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.0068**	**0.0042**	**0.00049**	**0.018**	**0.00036**	**0.00017 J**	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.330**	**0.190**	**0.00012 J**	**0.0030**	<0.00023	<0.00033 B	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	<0.00098	**0.000028 J**	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.00098	<0.00021	<0.00023	<0.00022	<0.00023	<0.00022	<0.00022	<0.00021	<0.00021	<0.00024	<0.00023
	Other PFAS Analytes	-	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	ND	-	ND	-	-	-	-	-	-	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	0.0	-	0.0	-	-	-	-	-	-	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)									
				Boring SB8				Boring SB9					
				SB8S1	SB8S3	SB8S5	SB8S8	SB9S1	SB9S3	SB9S5	SB9S11	SB9S23	SB9S33~
				0.0-2.0	10.0-12.0	20.0-22.0	36.0-38.0	0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	110.0-112.0	110.0-112.0
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	-	-	-	-	-	-	-	-	-	-
AK 102	Diesel Range Organics (DRO)	250	mg/kg	-	-	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	-	-	-	-	-	-	-	-	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	-	-	-	-	-	-	-	-	-	-
	Toluene	6.7	mg/kg	-	-	-	-	-	-	-	-	-	-
	Ethylbenzene	0.13	mg/kg	-	-	-	-	-	-	-	-	-	-
	Xylenes (total)	1.5	mg/kg	-	-	-	-	-	-	-	-	-	-
	1,2,4-Trimethylbenzene	0.61	mg/kg	-	-	-	-	-	-	-	-	-	-
	1,3,5-Trimethylbenzene	0.66	mg/kg	-	-	-	-	-	-	-	-	-	-
	4-Isopropyltoluene	-	mg/kg	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene (Cumene)	5.6	mg/kg	-	-	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	-	-	-	-
	n-Propylbenzene	9.1	mg/kg	-	-	-	-	-	-	-	-	-	-
	sec-Butylbenzene	28	mg/kg	-	-	-	-	-	-	-	-	-	-
	tert-Butylbenzene	11	mg/kg	-	-	-	-	-	-	-	-	-	-
	Tetrachloroethene	0.19	mg/kg	-	-	-	-	-	-	-	-	-	-
	Trichloroethene	0.011	mg/kg	-	-	-	-	-	-	-	-	-	-
	Other VOCs	Various	mg/kg	-	-	-	-	-	-	-	-	-	-
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	-	-	-	-	-	-	-	-	-	-
	2-Methylnaphthalene	1.3	mg/kg	-	-	-	-	-	-	-	-	-	-
	Benzo(a)Anthracene	0.70	mg/kg	-	-	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	1.5	mg/kg	-	-	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	15	mg/kg	-	-	-	-	-	-	-	-	-	-
	Chrysene	600	mg/kg	-	-	-	-	-	-	-	-	-	-
	Flouranthene	590	mg/kg	-	-	-	-	-	-	-	-	-	-
	Flourene	36	mg/kg	-	-	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	-	-	-	-
	Phenanthrene	39	mg/kg	-	-	-	-	-	-	-	-	-	-
	Pyrene	87	mg/kg	-	-	-	-	-	-	-	-	-	-
	Other PAHs	Various	mg/kg	-	-	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.00014 J**	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.00011 J**	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.00026 J**	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.00010 J**	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorodecanoic acid (PFDA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00030	<0.00021	**0.000050 J**	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.00017 J**	**0.000066 J**	**0.00011 J**	**0.000081 J**	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.00070**	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.00030	<0.00021	<0.00023	<0.00020	<0.00022	<0.00021	<0.00019	<0.00022	<0.00023	<0.00023
	Other PFAS Analytes	-	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	-	-	-	-	-	-	-	-	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	-	-	-	-	-	-	-	-	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)										
				Boring SB11						Boring SB12				
				SB11S1	SB11S2	SB11S3	SB11S4	SB11S5	SB11S15~	SB12S1	SB12S3	SB12S5	SB12S11	SB12S13
				0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	150.0-152.0	150.0-152.0	0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	63.0-65.0
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	-	-	-	-	-	-	-	-	-	-	-
AK 102	Diesel Range Organics (DRO)	250	mg/kg	-	-	-	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	-	-	-	-	-	-	-	-	-	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Toluene	6.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Ethylbenzene	0.13	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Xylenes (total)	1.5	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-Trimethylbenzene	0.61	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-Trimethylbenzene	0.66	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	4-Isopropyltoluene	-	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene (Cumene)	5.6	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	n-Propylbenzene	9.1	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	sec-Butylbenzene	28	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	tert-Butylbenzene	11	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Tetrachloroethene	0.19	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Trichloroethene	0.011	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Other VOCs	Various	mg/kg	-	-	-	-	-	-	-	-	-	-	-
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	2-Methylnaphthalene	1.3	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a)Anthracene	0.70	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	1.5	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	15	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Chrysene	600	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Flouranthene	590	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Flourene	36	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Phenanthrene	39	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Pyrene	87	mg/kg	-	-	-	-	-	-	-	-	-	-	-
	Other PAHs	Various	mg/kg	-	-	-	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	<0.00029 B	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.000096 J**	**0.00012 J**	**0.00010 J**	<0.00021	<0.00024
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.000070 J**	**0.000050 J**	<0.00022	<0.00021	<0.00024
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.000092 J**	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.00037**	**0.00042**	<0.00022	<0.00021	<0.00024
	Perfluorononanoic acid (PFNA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.00057**	<0.00023	<0.00022	<0.00021	<0.00024
	Perfluorodecanoic acid (PFDA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.000095 J**	<0.00023	<0.00022	<0.00021	<0.00024
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	<0.00021	<0.00023	<0.00022	<0.00021	<0.00024
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.000039 J**	<0.00023	<0.00022	<0.00021	<0.00024
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.000027 J**	**0.000067 J**	<0.00022	<0.00021	<0.00024
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	<0.00021	**0.000098 J**	<0.00022	<0.00021	<0.00024
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	<0.00021	<0.00023	<0.00022	<0.00021	<0.00024
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.00028 J**	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.00074**	**0.00039**	**0.00039**	<0.00021	<0.00024
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.00012 J**	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	**0.0013**	<0.00024 B	<0.00022	<0.00021	<0.00024
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	<0.00021	<0.00023	<0.00022	<0.00021	<0.00024
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.00029	<0.00021	<0.00023	<0.00022	<0.00025	<0.00025	<0.00021	<0.00023	<0.00022	<0.00021	<0.00024
	Other PFAS Analytes	-	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	-	-	-	-	-	-	-	-	-	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	-	-	-	-	-	-	-	-	-	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ (See Table 1, Figure 2, and Appendix C)							
				Boring SB13						Quality Control	
				SB13S1	SB13S3	SB13S5	SB13S11	SB13S15	SB13S25~	FB1	TB1
				0.0-2.0	10.0-12.0	20.0-22.0	50.0-52.0	71.0-73.0	71.0-73.0	Field Blank	Trip Blank
AK 101	Gasoline Range Organics (GRO)	300	mg/kg	-	-	-	-	-	-	<2.54 B	<2.56 B
AK 102	Diesel Range Organics (DRO)	250	mg/kg	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	10,000	mg/kg	-	-	-	-	-	-	-	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	-	-	-	-	-	-	<0.00635	<0.0064
	Toluene	6.7	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	Ethylbenzene	0.13	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	Xylenes (total)	1.5	mg/kg	-	-	-	-	-	-	<0.0381	<0.0384
	1,2,4-Trimethylbenzene	0.61	mg/kg	-	-	-	-	-	-	<0.0510	<0.0510
	1,3,5-Trimethylbenzene	0.66	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	4-Isopropyltoluene	-	mg/kg	-	-	-	-	-	-	<0.0406	<0.0410
	Isopropylbenzene (Cumene)	5.6	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	n-Propylbenzene	9.1	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	sec-Butylbenzene	28	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	tert-Butylbenzene	11	mg/kg	-	-	-	-	-	-	<0.0127	<0.0128
	Tetrachloroethene	0.19	mg/kg	-	-	-	-	-	-	<0.00635	<0.0064
	Trichloroethene	0.011	mg/kg	-	-	-	-	-	-	<0.0051	<0.0051
	Other VOCs	Various	mg/kg	-	-	-	-	-	-	ND	ND
EPA 8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	-	-	-	-	-	-	-	-
	2-Methylnaphthalene	1.3	mg/kg	-	-	-	-	-	-	-	-
	Benzo(a)Anthracene	0.70	mg/kg	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	1.5	mg/kg	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	15	mg/kg	-	-	-	-	-	-	-	-
	Chrysene	600	mg/kg	-	-	-	-	-	-	-	-
	Flouranthene	590	mg/kg	-	-	-	-	-	-	-	-
	Flourene	36	mg/kg	-	-	-	-	-	-	-	-
	Naphthalene	0.038	mg/kg	-	-	-	-	-	-	-	-
	Phenanthrene	39	mg/kg	-	-	-	-	-	-	-	-
	Pyrene	87	mg/kg	-	-	-	-	-	-	-	-
	Other PAHs	Various	mg/kg	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.0019**	**0.00021 J**	<0.00023	**0.00074**	**0.00040**	<0.00022	-	-
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.00069**	**0.000091 J**	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.00047**	**0.00046**	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.00043**	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorodecanoic acid (PFDA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.000060 J**	**0.00017 J**	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	<0.0012 B	<0.00035 B	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	mg/kg	<0.00022	<0.00022	<0.00023	<0.00027	<0.00022	<0.00022	-	-
	Other PFAS Analytes	-	mg/kg	ND	ND	ND	ND	ND	ND	-	-
EPA 8082A (PCBs)	Total PCBs	1.0	mg/kg	-	-	-	-	-	-	-	-
EPA 8290 (Dioxins)	TEQ***	3.9	pg/g	-	-	-	-	-	-	-	-

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS

Notes:

*	= See Appendix F for compounds tested, methods, and laboratory reporting limits
**	= Soil cleanup level is the most stringent ADEC Method Two standard listed in Table B1 or B2, 18 AAC 75 (October 2023), for the "under 40 inches (precipitation) zone"
***	= The toxic equivalency quotient (TEQ) method uses equivalency factors (TEFs), to express each dioxin and dioxin-likecompound as an equivalent concentration of the reference compound 2,3,7,8 TCDD using the World Health compound as an equivalent concentration of the reference compound 2,3,7,8 TCDD using the World Health Organization (WHO) Method. The sum of the TEF concentration yields the Total TEQ.
^	= Sample ID number preceded by "108906-" on the chain-of-custody form
~	= Duplicate of preceding sample
ADEC	= Alaska Department of Environmental Conservation
EPA	= Environmental Protection Agency
PFAS	= Per- and polyfluoroalkyl substances
mg/kg	= Milligrams per kilogram
pg/g	= Picogram per gram
VOCs	= Volatile organic compounds
PAHs	= Polynuclear aromatic hydrocarbons
PCBs	= Polychlorinated biphenyls
PFAS	= Per- and polyfluoroalkyl substances
ND	= Analyte not detected
<	= Analyte not detected; below laboratory limit of detection
161	= Analyte detected
1,420	= Analyte detected above ADEC cleanup level
-	= Not applicable or sample not tested for this analyte
J	= Estimated concentration less than the limit of quantitation.
J+	= Estimated concentration is biased high.
B	= Analyte concentration is potentially affected by method blank detection.

TABLE 4 - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ and Depth in feet bgs (See Tables 1 and 2, Figure 2, and Appendix C)											
				Monitoring Wells								Temporary Monitoring Wells			
				B1MW 64.38	B2MW 65.09	B12MW~ 65.09	B11MW 105.53	B12MW 63.32	B13MW 70.33	B23MW~ 70.33	MW-04 65.43	B6TMW 71.90	B16TMW~ 71.90	B8TMW 38.09	B9TMW 112.25
AK 101	Gasoline Range Organics (GRO)	2,200	µg/L	<50.0	<50.0	<50.0	-	-	-	-	-	-	-	-	-
AK 102	Diesel Range Organics (DRO)	1,500	µg/L	**1,610 B**	**1,150 B**	**1,150 B**	-	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	1,100	µg/L	**1,120 B**	**798 B**	**823 B**	-	-	-	-	-	-	-	-	-
EPA 8260B (VOCs)	Benzene	4.6	µg/L	<0.200	<0.200	<0.200	-	-	-	-	-	-	-	-	-
	Toluene	1,100	µg/L	<0.500	<0.500	<0.500	-	-	-	-	-	-	-	-	-
	Ethylbenzene	15	µg/L	<0.500	<0.500	<0.500	-	-	-	-	-	-	-	-	-
	Xylenes (total)	190	µg/L	<1.50	<1.50	<1.50	-	-	-	-	-	-	-	-	-
	Chloromethane	190	µg/L	**0.375 J**	**0.502 J**	**0.373 J**	-	-	-	-	-	-	-	-	-
	Other VOCs	Various	µg/L	ND	ND	ND	-	-	-	-	-	-	-	-	-
EPA 8270D SIM (PAHs)	Benzo(a)Anthracene	0.30	µg/L	<0.0236	**0.0724 E**	**0.0194 J, E**	-	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	0.25	µg/L	<0.00945	**0.0458 E**	**0.0100 J, E**	-	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	2.5	µg/L	<0.0236	**0.0850 E**	**0.0162 J, E**	-	-	-	-	-	-	-	-	-
	Benzo[g,h,i]perylene	0.26	µg/L	<0.0236	**0.0172 J**	<0.0245	-	-	-	-	-	-	-	-	-
	Benzo[k]fluoranthene	0.80	µg/L	<0.0236	**0.0455 J**	<0.0245	-	-	-	-	-	-	-	-	-
	Chrysene	2.0	µg/L	<0.0236	**0.0563 E**	**0.0157 J, E**	-	-	-	-	-	-	-	-	-
	Dibenzo[a,h]anthracene	0.25	µg/L	<0.00945	**0.0169 J**	**0.0105 J**	-	-	-	-	-	-	-	-	-
	Flouranthene	260	µg/L	<0.0236	**0.0402 J**	**0.0234 J**	-	-	-	-	-	-	-	-	-
	Indeno[1,2,3-c,d] pyrene	0.19	µg/L	<0.0236	**0.0280 J**	<0.0245	-	-	-	-	-	-	-	-	-
	Phenanthrene	170	µg/L	<0.0471	<0.0481	**0.0317 J**	-	-	-	-	-	-	-	-	-
	Pyrene	120	µg/L	<0.0236	**0.0375 J, E**	**0.0206 J, E**	-	-	-	-	-	-	-	-	-
	Other PAHs	Various	µg/L	ND	ND	ND	-	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	µg/L	<0.110	**0.061 J**	**0.065 H, J+**	<0.0019 H	**0.066**	**0.87**	**0.96**	**1.2**	**0.0059**	**0.0060**	**0.0012 J**	**0.067**
	Perfluoroheptanoic acid (PFHpA)	-	µg/L	**33**	**0.003 H**	**0.0029 H**	**0.00029 J, H**	**0.00049 J**	**0.0029**	**0.0031**	**0.053**	**0.0018**	**0.0014 J**	**0.00092 J**	**0.014**
	Perfluorooctanoic acid (PFOA)	0.40	µg/L	**5.1**	**0.050 J**	**0.047 J**	<0.0019 H	<0.0018	**0.0062**	**0.0062**	**0.0024**	**0.0018**	**0.0016 J**	**0.0014 J**	**0.031**
	Perfluorononanoic acid (PFNA)	-	µg/L	<0.100	**0.00052 J, H**	**0.0005 J, H**	<0.0019 H	<0.0018	**0.00030 J**	**0.00041 J**	<0.0018	**0.0013 J**	**0.00075 J**	**0.00079 J**	**0.0089**
	Perfluorodecanoic acid (PFDA)	-	µg/L	<0.100	**0.00028 J, H**	**0.00032 J, H**	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	**0.00087 J**	**0.00067 J**	**0.00069 J**	**0.0054**
	Perfluoroundecanoic acid (PFUnA)	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	**0.0020**
	Perfluorododecanoic acid (PFDoA)	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	**0.00079 J**
	Perfluorotridecanoic acid (PFTriA)	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	<0.0017
	Perfluorotetradecanoic acid (PFTeA)	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	<0.0017
	Perfluorobutanesulfonic acid (PFBS)	-	µg/L	**5**	**0.014 H**	**0.013 H**	<0.0019 H	**0.014**	**0.065**	**0.069**	**0.24**	<0.0017	<0.0018	**0.0024**	**0.019**
	Perfluorohexanesulfonic acid (PFHxS)	-	µg/L	**4.5**	**0.041 J**	**0.041 J**	<0.0019 H	**0.017**	**0.0064**	**0.0068**	**0.022**	**0.00066 J**	**0.00061 J**	**0.071**	**0.014**
	Perfluorooctanesulfonic acid (PFOS)	0.40	µg/L	**1.2**	**0.064 J**	**0.072 H**	**0.00068 J, H**	<0.0018	**0.0049**	**0.0056**	<0.0018	**0.0034 E**	**0.0050 E**	**0.00045 J**	**0.076**
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	µg/L	<0.250	<0.250	<0.250	<0.0047 H	<0.0046	<0.0042	<0.0042	<0.0046	<0.0041	<0.0044	<0.0040	<0.0042
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	µg/L	<0.250	<0.250	<0.250	<0.0047 H	<0.0046	<0.0042	<0.0042	<0.0046	<0.0041	<0.0044	<0.0040	<0.0042
	9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	<0.0017
	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	-	µg/L	<0.200	<0.200	<0.200	<0.0038 H	<0.0037	<0.0034	<0.0033	<0.0037	<0.0033	<0.0035	<0.0032	<0.0033
	11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	<0.0017
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	-	µg/L	<0.100	<0.100	<0.100	<0.0019 H	<0.0018	<0.0017	<0.0017	<0.0018	<0.0017	<0.0018	<0.0016	<0.0017

TABLE 4 - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID^ and Depth in feet bgs (See Tables 1 and 2, Figure 2, and Appendix C)													
				Quality Control													
				GAC 8/22/2023	EB 3/16/2023	EB1 2/23/2023	EB2 2/23/2023	EB2 8/22/2023	EB3 8/7/2023	EB4 8/9/2023	FB 3/16/2023	FB1 2/23/2023	FB2 2/23/2023	FB2 8/22/2023	FB3 8/3/2023	FB4 8/9/2023	WTB 3/16/2023
AK 101	Gasoline Range Organics (GRO)	2,200	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<50.0
AK 102	Diesel Range Organics (DRO)	1,500	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AK 103	Residual Range Organics (RRO)	1,100	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPA 8260B (VOCs)	Benzene	4.6	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.200
	Toluene	1,100	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.500
	Ethylbenzene	15	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.500
	Xylenes (total)	190	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.50
	Chloromethane	190	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.500
	Other VOCs	Various	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	ND
EPA 8270D SIM (PAHs)	Benzo(a)Anthracene	0.30	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo[a]pyrene	0.25	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo[b]Fluoranthene	2.5	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo[g,h,i]perylene	0.26	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo[k]fluoranthene	0.80	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chrysene	2.0	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibenzo[a,h]anthracene	0.25	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Flouranthene	260	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Indeno[1,2,3-c,d] pyrene	0.19	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phenanthrene	170	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pyrene	120	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Other PAHs	Various	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPA 537M (PFAS)	Perfluorohexanoic acid (PFHxA)	-	µg/L	**0.00050 J**	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluoroheptanoic acid (PFHpA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorooctanoic acid (PFOA)	0.40	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorononanoic acid (PFNA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorodecanoic acid (PFDA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluoroundecanoic acid (PFUnA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorododecanoic acid (PFDoA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorotridecanoic acid (PFTriA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorotetradecanoic acid (PFTeA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorobutanesulfonic acid (PFBS)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorohexanesulfonic acid (PFHxS)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Perfluorooctanesulfonic acid (PFOS)	0.40	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	-	µg/L	<0.0042	<0.0043	<0.0044	<0.0045	<0.0048	<0.0044	<0.0043	<0.0043	<0.0045	<0.0043	<0.0047	<0.0048	<0.0041	-
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	-	µg/L	<0.0042	<0.0043	<0.0044	<0.0045	<0.0048	<0.0044	<0.0043	<0.0043	<0.0045	<0.0043	<0.0047	<0.0048	<0.0041	-
	9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	-	µg/L	<0.0033	<0.0034	<0.0035	<0.0036	<0.0039	<0.0035	<0.0034	<0.0034	<0.0036	<0.0034	<0.0037	<0.0038	<0.0033	-
	11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	-	µg/L	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0017	<0.0017	<0.0017	<0.0018	<0.0017	<0.0019	<0.0019	<0.0016	-

TABLE 4 - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Notes:

*	= See Appendix F for compounds tested, methods, and laboratory reporting limits
**	= Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (October 2023)
^	= Sample ID number preceded by "108906-" on the chain-of-custody form
~	= Duplicate of preceding sample
ADEC	= Alaska Department of Environmental Conservation
btoc	= Below top of casing
EPA	= Environmental Protection Agency
µg/L	= Micrograms per liter
PFAS	= Per- and polyfluoroalkyl substances
PAHs	= Polynuclear aromatic hydrocarbons
VOCs	= Volatile organic compounds
µg/L	= Micrograms per liter
<50.0	= Analyte not detected; laboratory limit of detection of 50 µg/L
0.375	= Analyte detected
1,610	= Analyte detected greater than ADEC cleanup level
B	= Analyte concentration is potentially affected by method blank detection.
E	= Result is an estimate due to a primary/field duplicate sample pair relative percent difference (RPD) failure. See the laboratory report for more details.
-	= Not applicable or sample not tested for this analyte
H	= Sample was prepped or analyzed outside of holding time
J	= Estimated concentration less than the limit of quantitation.
J+	= Estimated concentration is biased high.

TABLE 5 - SUMMARY OF SURFACE WATER ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID (See Table 1 and Figure 3) Surface Water Sample SW1	SW2	SW3	SW4	SW5	SW15~	SW6	SW7	SW8
QSM 5.3 Table B-15 (PFAS)	Perfluorohexanoic acid (PFHxA)	-	µg/L	**1.0**	**0.680**	**0.270**	**0.270**	**0.120**	**0.120**	**30.0**	**33.0**	**0.093**
	Perfluoroheptanoic acid (PFHpA)	-	µg/L	**0.240**	**0.140**	**0.057**	**0.056**	**0.026**	**0.025**	**9.20**	**10.0**	**0.060**
	Perfluorooctanoic acid (PFOA)	0.40	µg/L	**0.270**	**0.190**	**0.096**	**0.100**	**0.052**	**0.051**	**13.0**	**14.0**	**0.052**
	Perfluorononanoic acid (PFNA)	-	µg/L	**0.061**	**0.041**	**0.025**	**0.023**	**0.012**	**0.012**	**1.7**	**1.5**	**0.022**
	Perfluorodecanoic acid (PFDA)	-	µg/L	**0.019**	**0.022**	**0.017**	**0.019**	**0.013**	**0.015**	**1.5**	**1.3**	**0.0029**
	Perfluoroundecanoic acid (PFUnA)	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	Perfluorododecanoic acid (PFDoA)	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	Perfluorotridecanoic acid (PFTriA)	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	Perfluorotetradecanoic acid (PFTeA)	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	Perfluorobutanesulfonic acid (PFBS)	-	µg/L	**0.036**	**0.032**	**0.026**	**0.033**	**0.026**	**0.025**	**0.530**	**0.720**	**0.0035**
	Perfluorohexanesulfonic acid (PFHxS)	-	µg/L	**0.290**	**0.250**	**0.160**	**0.180**	**0.120**	**0.120**	**12.0**	**12.0**	**0.064**
	Perfluorooctanesulfonic acid (PFOS)	0.40	µg/L	**1.2**	**1.1**	**0.860**	**0.850**	**0.520**	**0.510**	**130**	**97.0**	**0.049**
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOS/	-	µg/L	<0.0042	<0.0041	<0.0042	<0.0044	<0.0042	<0.0042	<0.410	<0.430	<0.0041
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA	-	µg/L	<0.0042	<0.0041	<0.0042	<0.0044	<0.0042	<0.0042	<0.410	<0.430	<0.0041
	9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	-	µg/L	<0.0034	<0.0033	<0.0034	<0.0035	<0.0033	<0.0034	<0.330	<0.340	<0.0033
	11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	-	µg/L	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.160	<0.170	<0.0017

Notes:

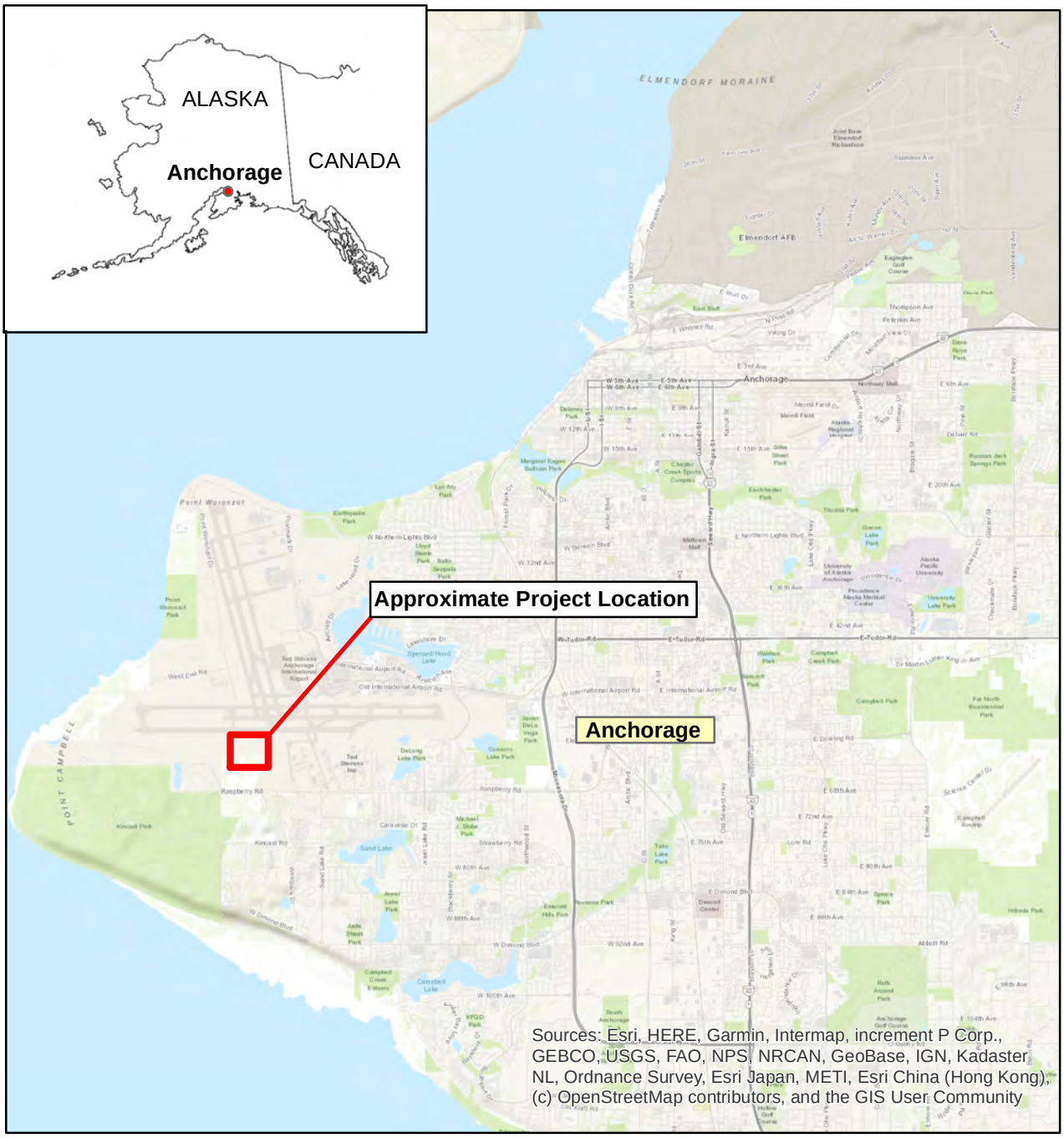
*	= See Appendix F for compounds tested, methods, and laboratory reporting limits
**	= Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (October 2023)
~	= Field duplicate of preceding sample
-	= Not applicable
ND	= Not detected
ADEC	= Alaska Department of Environmental Conservation
µg/L	= Micrograms per liter
<0.0017	= Analyte not detected; laboratory limit of detection of 0.0017 µg/L
1.2	= Analyte detected greater than ADEC cleanup level
0.240	= Analyte detected

TABLE 6 - SUMMARY OF SEDIMENT ANALYTICAL RESULTS

Analytical Method*	Analyte	ADEC Cleanup Level**	Units	Sample ID (See Table 1 and Figure 3)						
				Sediment Sample						
				SD1	SD2	SD3	SD4	SD5	SD15~	SD6
QSM 5.3 Table B-15 (PFAS)	Perfluorohexanoic acid (PFHxA)	-	mg/kg	**0.0019 J+**	**0.00089 J+**	**0.00036 J+**	**0.0010 J+**	**0.00087 J+**	**0.00067 J+**	**0.027 J+**
	Perfluoroheptanoic acid (PFHpA)	-	mg/kg	**0.00057**	**0.00018 J**	**0.000094 J**	**0.00019 J**	**0.00017 J**	**0.00012 J**	**0.0049**
	Perfluorooctanoic acid (PFOA)	0.0017	mg/kg	**0.0012 J+**	**0.00069 J+**	**0.00027 J+**	**0.0011 J+**	**0.0014 J+**	**0.00076 J+**	**0.016 J+**
	Perfluorononanoic acid (PFNA)	-	mg/kg	**0.00093**	**0.00024 J**	**0.00011 J**	<0.00025	**0.00046**	**0.00032**	<0.00024
	Perfluorodecanoic acid (PFDA)	-	mg/kg	**0.00053 J+**	**0.00045 J+**	**0.00016 J+**	**0.00046 J+**	**0.00065 J+**	**0.00041 J+**	**0.016 J+**
	Perfluoroundecanoic acid (PFUnA)	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	<0.00024
	Perfluorododecanoic acid (PFDoA)	-	mg/kg	**0.00014 J**	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	**0.011**
	Perfluorotridecanoic acid (PFTriA)	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	<0.00024
	Perfluorotetradecanoic acid (PFTeA)	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	**0.0026**
	Perfluorobutanesulfonic acid (PFBS)	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	**0.00032**
	Perfluorohexanesulfonic acid (PFHxS)	-	mg/kg	**0.0014 J+**	**0.00095 J+**	**0.00048 J+**	**0.0012 J+**	**0.0017 J+**	**0.0010 J+**	**0.010 J+**
	Perfluorooctanesulfonic acid (PFOS)	0.0030	mg/kg	**0.049 J+**	**0.022 J+**	**0.0076 J+**	**0.019 J+**	**0.033 J+**	**0.020 J+**	**1.2 J+**
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOS/	-	mg/kg	**0.000062 J**	<0.00026	**0.000036 J**	<0.00025	<0.00022	**0.00016 J**	**0.0024 J**
	N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA	-	mg/kg	<0.00026	**0.00014 J**	<0.00023	**0.00025**	**0.00020 J**	**0.00014 J**	**0.0016**
	9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	<0.00024
	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	<0.00024
	11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	-	mg/kg	<0.00026	<0.00026	<0.00023	<0.00025	<0.00022	<0.00023	<0.00024
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	-	mg/kg	<0.00026	<0.00026	<0.00023	**0.000063 J**	<0.00022	<0.00023	<0.00024

Notes:

*	= See Appendix F for compounds tested, methods, and laboratory reporting limits
**	= Soil cleanup level is the most stringent ADEC Method Two standard listed in Table B1 or B2, 18 AAC 75 (October 2023), for the "under 40 inches (precipitation) zone"
~	= Duplicate of preceding sample
-	= Not applicable
ND	= Not detected
ADEC	= Alaska Department of Environmental Conservation
mg/kg	= Milligrams per kilogram
<0.00026	= Analyte not detected; laboratory limit of detection of 0.00026 mg/kg
0.016	= Analyte detected greater than ADEC cleanup level
0.000570	= Analyte detected
J	= Estimated concentration less than the limit of quantitation.
J+	= Result may be biased high due to surrogate failures.



N

0 0.75 1.5 3

Miles

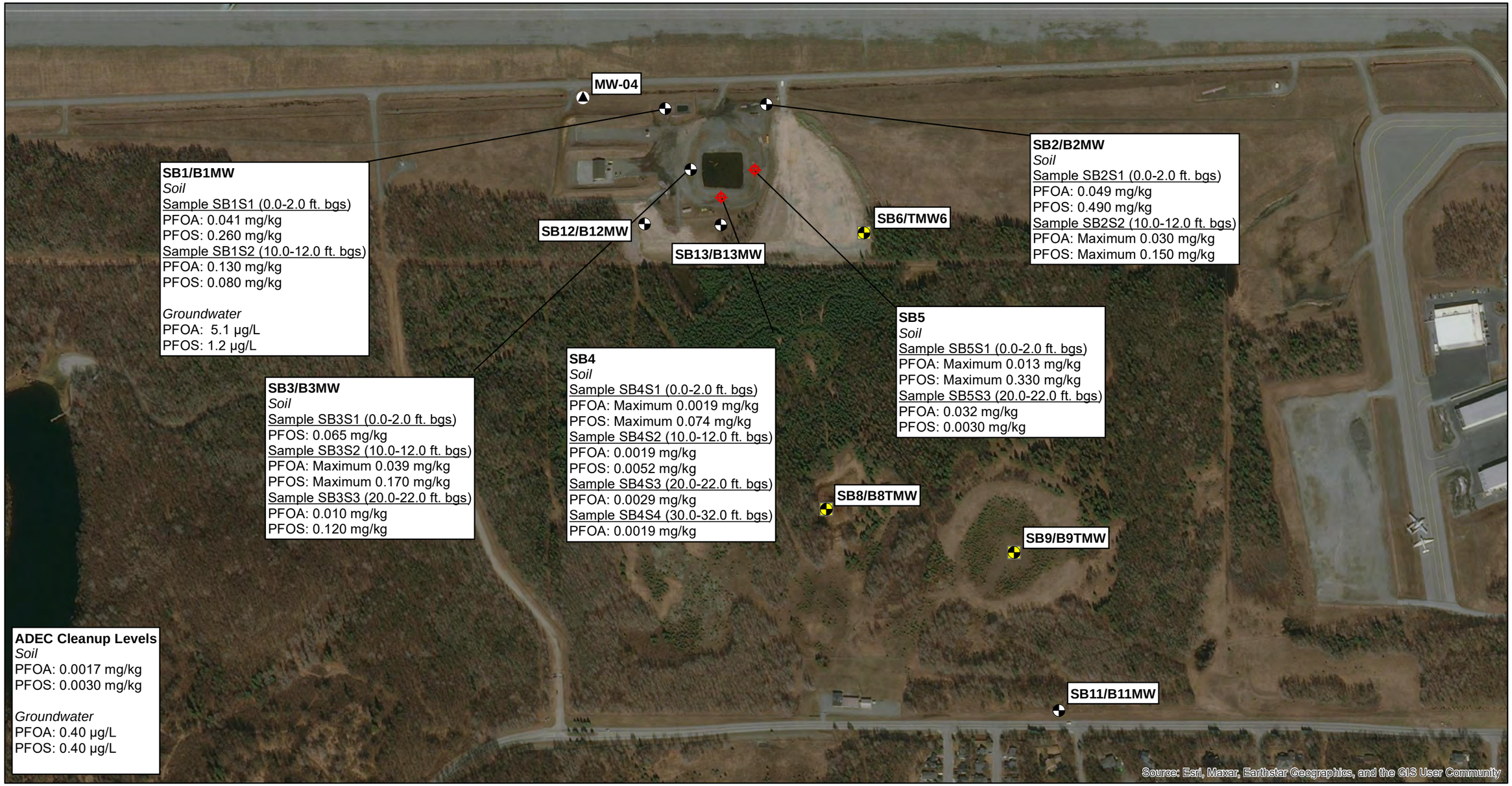
ANC Fire Training Pit
Anchorage, Alaska

VICINITY MAP

February 2024 108906-003

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1



Legend

- Boring/monitoring well advanced/installed by Shannon & Wilson in 2023.
- Existing monitoring well sampled by Shannon & Wilson in August 2023.
- Boring advanced by Shannon & Wilson in February 2023.
- Boring/temporary monitoring well advanced/installed by Shannon & Wilson in 2023.

PFOA= Perfluorooctanoic acid

PFOS= Perfluorooctanesulfonic acid

mg/kg= Milligrams per kilogram

µg/L= Micrograms per liter

ND= Analyte not detected

ft. bgs= Feet below ground surface

Note: Displayed PFOS/PFOA concentrations exceed soil cleanup levels listed in Tables B1 and B2 of 18 AAC 75.341, for the “under 40-inch (precipitation) zone” and groundwater cleanup levels established in Table C of 18 AAC 75.345.

0 0.1 0.2
Miles

N

ANC Fire Training Pit
Anchorage, Alaska

DETAILED SITE PLAN - BORINGS AND MONITORING WELLS

February 2024 108906-003

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 2

Legend

Approximate location of surface water/sediment sample collected by Shannon & Wilson in June 2023.

Approximate location of surface water sample collected by Shannon & Wilson in June 2023.

PFOA= Perfluorooctanoic acid

PFOS= Perfluorooctanesulfonic acid

mg/kg= Milligrams per kilogram

µg/L= Micrograms per liter

Note: Displayed PFOS/PFOA concentrations exceed soil cleanup levels listed in Tables B1 and B2 of 18 AAC 75.341, for the “under 40-inch (precipitation) zone” and groundwater cleanup levels established in Table C of 18 AAC 75.345.

0 0.1 0.2
Miles

N

ANC Fire Training Pit
Anchorage, Alaska

DETAILED SITE PLAN - SURFACE WATER/SEDIMENT

February 2024 108906-003

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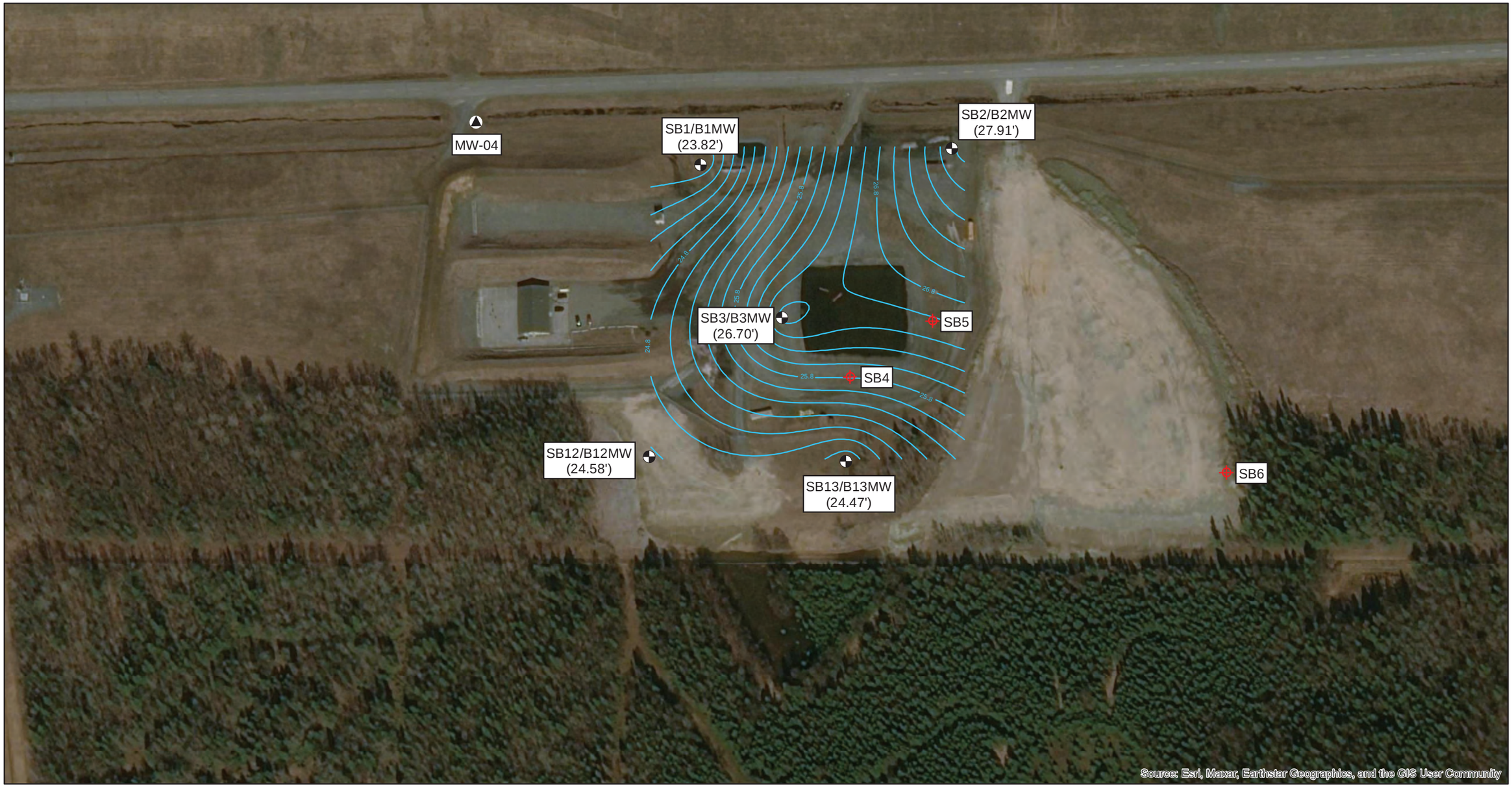
Figure 3



Legend

- Boring/monitoring well advanced/installed. by Shannon & Wilson in 2023.
- Existing monitoring well sampled by Shannon & Wilson in August 2023.
- Boring advanced by Shannon & Wilson in February 2023.
- Groundwater elevation in feet measured on September 11, 2023

Professional survey conducted by Mammoth Consulting LLC on August 28, 2023.

Note: Groundwater contours were produced in Surfer, a product by Golden Software.

N

0 100 200

Feet

ANC Fire Training Pit
Anchorage, Alaska

DETAILED SITE PLAN - GROUNDWATER FLOW DIRECTION

February 2024 108906-003

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 4

Appendix A

Site Photographs

Photo 1: Looking northwest, Geotek advancing Boring SB1. (February 20, 2023)

Photo 2: Looking south at Well B1MW. (February 20, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 1 AND 2

February 2024 108906-003

Photo 3: Looking northwest, Geotek advancing Boring SB2. (February 21, 2023)

Photo 4: Looking northwest at Well B2MW. (February 22, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 3 AND 4

February 2024 108906-003

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Geotechnical & Environmental Consultants

Photo 5: Looking southeast at Geotek advancing Boring SB3. (February 22, 2023)

Photo 6: Looking east at Well B3MW. (February 23, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 5 AND 6

February 2024 108906-003

Photo 7: Looking east at Geotek advancing Boring SB6. (August 8, 2023)

Photo 8: Looking west at Geotek advancing Boring SB8. (August 4, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 7 AND 8

February 2024 108906-003

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Geotechnical & Environmental Consultants

Photo 9: Looking north at Geotek advancing Boring SB9. (August 2, 2023)

Photo 10: Looking north at Temporary Monitoring Well TMW9. (August 4, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 9 AND 10

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

Photo 11: Looking east at Geotek advancing Boring SB11. (July 6, 2023)

Photo 12: Looking north at Well B11MW. (July 8, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 11 AND 12

February 2024 108906-003

Photo 13: Looking west at Geotek advancing Boring SB12. (August 7, 2023)

Photo 14: Looking west at Well B12MW. (August 7, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 13 AND 14

February 2024 108906-003

Photo 15: Looking east at Geotek advancing Boring SB13. (August 7, 2023)

Photo 16: Looking east at Well B13MW. (August 8, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 15 AND 16

February 2024 108906-003

Photo 17: Looking west, Shannon & Wilson collecting surface water Sample SW-6. (June 6, 2023)

Photo 18: Looking east, Shannon & Wilson filtering the development/purge water through the GAC system. (August 23, 2023)

ANC Fire Training Pit
Anchorage, Alaska

PHOTOS 17 AND 18

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

Appendix B

Field Notes

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: ~~Discovery~~ Geotech
PROBE RIG EQUIPMENT: B040
PROBING METHOD: Direct Push / Auger
PROBE DIAM.: TYP. RUN LENGTH:
WEATHER DURING DRILLING: 40° Partly Cloudy

JOB NO: 108906 PROBE NO: SB1
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJR
LOCATION: ELEV.:
START DATE: 2/20/23 END DATE: 2/20/23.

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION (Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.)	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
2/20/23 1030	1	0/5	60"	Brown; sand with varying amounts of silt + gravel. Moist. Fines from 0-1	1	SB1S1	0/2	
		5-10 Auger		Brown-gray; Sand with varying amounts of Silt + gravel. Moist	1			
2/20/23 1050	2	10-15	60"	" "	1	SB1S2	10-12	
		15-20 Auger	"	" "	1			
2/20/23 1115	3	20-25	60"	Brown; Sand w/ silt trace gravel. Moist	1	SB1S3	20-22	
		25-50 Auger		Brown-gray; Sand with Silt + trace gravel. moist	1			
2/20/23 1205	4	50-55	60"	Brown-Gray. Silt with Sand (trace). moist	1	SB1S4	50-52	
2/20/23 1330		55-70 Auger	70-75 60"	Brown-Gray Silt with varying amounts of sand. wet @ ~~~69~~ ~67 AR	1	SB1S5	65-67	

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~~69~~ 67	1330	2/20/23
AR		

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB1 SHEET 1 OF 1

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: 8040
PROBING METHOD: Direct Push / Auger
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 5° sunny

JOB NO: 1089106 PROBE NO: SB2
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJK
LOCATION: _____ ELEV.: _____
START DATE: 2/21/23 END DATE: 2/22/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
2/21/23 1040	1	0/5	60"	Brown - Grey; Sand with vary of amount of silt & gravel. frozen from 0-1. Moist from 1-5	/	SB251	0/2	
				5-10 " " " Moist				
2/21/23 1130	2	10/15	55"	Brown; silt with sand; moist	/	SB252	11-12	
				15-20' " " "				
2/21/23 1210	3	20/25	60"	Brown; silt with sand; moist	/	SB253	20-22	
2/21/23 1345	4	50/55	60	as above	/	SB254	50-52	
1420	5	60/65	60	Brown silt with sand, moist	/	SB255	60-65	
1500	6	65/70	60	as above	/	SB256	65-70	
1610	7	70/75	60	as above increasing silt	/	SB257	70-75	
1655	8	75/80	66	75-79.5 Brown silt. Occasional 1-2" silt w/sand 79.5-80 gravel sand; moist	/	SB258	75-80	
1740	9	80/85	60	80-85' Grey - silt clay moist moist				

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~70'	16:15	2/21/23

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB2 SHEET _____ OF _____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: _____
WEATHER DURING DRILLING: Partly cloudy 25°F

JOB NO: 109906 PROBE NO: SB 3
JOB NAME: ANC Fire training pit
LOGGED BY: A Gelich Z Thon
LOCATION: _____ ELEV.: _____
START DATE: 2/22/23 END DATE: 2/23/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
2/22 1435	1*	0 / 5	60	Brown silt with sand and gravel, frozen	–	SB3S1	0 / 2	
1500	2*	5 / 10	56	Brown to grey silt w/ sand moist. petroleum- odor 10-12 Ft	–	SB3S2	10 / 12	
1540	3*	20 / 25	30	Brown silt w/ 1-2 in grey sand lenses, moist		SB3S3	20 / 22	
1645	4*	50 / 55	60	Brown to gray silt w/ sand moist		SB3S4	50 / 52	
	5	60 / 65	60	~~60-62 as above.~~ 62-63.5 grey sand, moist 63.5-65 brown silty sand, moist		SB3S5	60 / 65	
2/23 9:50	6*	65 / 70	60	65-67 Gr wet silt sand ~ saturated 67-69 Gr silty-clay moist 69-70 - Red/Brown sand w/ silt + minor clay w/ black organics		SB3S5	65 / 70	
10:50	7	70 / 75	60	70+0.5' Grey - wet silt, saturated small lense red coarse sand 71-75 - Grey silty clay w/ minor sand lenses, moist		—	70 / 75	

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE
~65-67	9:40	2/23/23

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB3 SHEET 1 OF 1

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: GeoTek
PROBE RIG EQUIPMENT: Geo Probe
PROBING METHOD: Direct Push
PROBE DIAM.: TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 27° snow, very windy

JOB NO: 108906 PROBE NO: SB4
JOB NAME: ANC Fire training P.T
LOGGED BY: ZJT
LOCATION: ELEV.:
START DATE: 2/23/23 END DATE: 2/23/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM	RUN TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	SAMPLE PURPOSE OR COMMENT
2/23 16:00	1	0	5	56"	0-1.5': Black Sand w/ gravel + organics moist 1.5-5.0 Tan-brown Silty sand w/ minor clay & organics moist	—	SB4S1	0	2	
16:10	2	10	15	36"	Grey- Silty sand w/ minor gravel moist	—	SB4S2	10	12	
1630	3	20	25	60"	Grey-Brown to black Silty clay Wood chunk @ 24' w/ peat below to 25', moist to wet	—	SB4S3	20	22	
15 1700	4	30	32	24"	Grey silty clay w/ sand, moist	—	SB4S4	30	32	

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
			Field Blank Collected @ 1710
			108906 - FB2
			Equipment Blank @ 1720
			108906 - EB2

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB4 SHEET 1 OF 1

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 27° Snowing, Windy

JOB NO: 108906 PROBE NO: SB5
JOB NAME: ANC Firetraining Pit
LOGGED BY: ZST
LOCATION: _____ ELEV.: _____
START DATE: 2/23/23 END DATE: 2/23/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
2/23 1420	1	0 5	56"	0-1.0' Black, Sand w/ gravel & organics	–	SB551	0 2	
1450	2	10 15	36"	1-5.0' Grey-brown silty sand w/ minor gravel, moist	–	SB552	10 12	
1500	3	20 25	50"	Tan-brown Silty Sand w/ minor clay & gravel moist	–	SB553	20 22	
1510	4	30 35	36"	Tan-Grey, Sand w/ silty clay lenses minor organics moist	–	SB554	30 32	
				Grey - Silty Sand w/ minor Clay, moist-dry				

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG
			Field Blank 108906-FB1 Was collected @ 1445

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB5 SHEET 1 OF 1

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 62° Light Rain

JOB NO: 108906 PROBE NO: SB6
JOB NAME: ANK Fire Training Pit
LOGGED BY: AJK
LOCATION: _____ ELEV.: _____
START DATE: 8/8/23 END DATE: _____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1355 8/8/23	1	0/5	36"	Brown; silt w/ sand, trace gravel. moist	1	SB661	0/2	
1400 8/8	2	5/10	60"	Brown; silty/ sand. moist	1	SB662		
1405 8/8	3	10/15	60"	" "	1	SB663	10/12	
1415 8/8	4	15/20	60"	Brown; silt. moist	1	SB664		
1425 8/8	5	20/25	60"	" "	1	SB665	20/22	
1435 8/8	6	25/30	60"	" "	1	SB666		
1445 8/8	7	30/35	60"	" "	1	SB667		
1615 8/8	8	35/40	54"	" "	1	SB668		

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB6 SHEET 1 OF _____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: _____

JOB NO: 108906 PROBE NO: SB6
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/8/23 END DATE: _____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1630 8/8	9	40/45	60"	Brown; Silt, Moist	/	SB6S9	0	
1645 8/8	10	45/50	60"	Brown; ~~Sand & Silt~~ AR Silt w/ Sand. Moist	/	SB6S10		
850 8/9	11	50/55	60"	Brown; Silt w/ Sand. Moist	/	SB6S11	50/52	
905 8/9	12	55/60	60"	" "	/	SB6S12		
950 8/9	13	60/65	60"	" "	/	SB6S13		
1100 8/9	14	65/~~70~~ NR	36"	Brown; Silt ~~&~~ Sand w/ ~~Silt~~ Silt @ 67 ft. Moist	/	SB6S14		
1203 8/9	15	~~70~~/75	60"	Brown-Gray; Silt w/ Sand Moist	/	SB6S15		
1215 8/9	16	75/80	60"	" " wet @ 75	/	SB6S16/S26	73/75	1215/1230

no recovery 8/9-70'

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
1225 Begin setting temp well to 80'
1235 well in ground - drillers to pull tooling.

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB6 SHEET 2 OF _____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geoprobe
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 60° cloudy

JOB NO: 108406 PROBE NO: SB8
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/4/23 END DATE: 8/4/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
900 8/4/23	1	0/5	48"	Brown; Silt w/ Sand and organics. Moist	/	SB8S1	0/2	
916 8/4/23	2	5/10	48"	Brown-Gray; Sand w/ Silt moist	/	SB8S2		
1015 8/4/23	3	10/15	48"	" "	/	SB8S3	10/12	
1035 8/4	4	15/20	48"	Gray; Sand w/ Silt + trace gravel. Moist	/	SB8S4		
1055 8/4	5	20/25	48"	Brown-Gry; Sand with silt and gravel. Wet from 20-25	/	SB8S5	20/22	
1120 8/4	6	25/30	60"	" " Wet from 25-27. moist 27-30	/	SB8S6		
1040 8/4	7	30/35	56"	Brown-Gray; Sand with silt and gravel. Moist	/	SB8S7		
1725 8/4	8	35/40	48"	Brown; Sand with silt + gravel. moist to wet @ 38'.	/	SB8S8	36/38	

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
1310 Begin installing well to 28 ft bgs. 10 ft screen.
1345 → well in ground. Drillers to pull casing
AJR

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB8 SHEET 1 OF 2

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Direct Push
PROBING METHOD: Geoprobe 8040
PROBE DIAM.: TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 63° partly cloudy

JOB NO: 1089016 PROBE NO: SB8
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJR
LOCATION: ELEV.:
START DATE: 8/4/23 END DATE: 8/4/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1750 8/4	09	40/45	48"	Brown; Sand w/ silt + gravel. wet	1	SB8S9		
1810 8/4	10	45/50	48"	Brown-Gray; " "	1	SB8S10		

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
1812 Begin setting temp well to 50'
1820 Begin pulling tooling

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB8 SHEET 1 OF 2

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push - DT37
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 60° partly cloudy/sunny

JOB NO: 108906 PROBE NO: SB91
JOB NAME: ANC Fire Training Area
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/2/23 END DATE: 8/3/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM	RUN TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	SAMPLE PURPOSE OR COMMENT
905 8/2	1	0	5	48"	Brown; Silty Sand w/ organics from 0 - 0.3". Moist	/	SB91	0	2	
910 8/2	2	10/5/10	15	60"	Brown; silty sand, Moist to Wet	/	SB92			
915 8/2	3	10	15	36"	Brown; silty sand. Moist	/	SB93	10	12	
920 8/2	4	15	20	30"	Brown Sand with silt and gravel. Moist	/	SB94			
940 8/2	5	20	25	48"	Brown; Sand w/ trace gravel. Moist	/	SB95	20	22	
950 8/2	6	25	30	48"	" "	/	SB96			
958 8/2	7	30	35	30"	Brown; Sand w/ silt & gravel. Moist	/	SB97			
1010 8/2	8	35	40	48"	Brown-gray; Sand with gravel Moist	/	SB98			

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB9 SHEET 1 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push - DT37
PROBE DIAM.: ____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 65° Sunny

JOB NO: 108906 PROBE NO: SB9
JOB NAME: ANC Facility Area
LOGGED BY: MAR
LOCATION: ____ ELEV.: ____
START DATE: 8/2/23 END DATE: 8/3/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1022 8/2	9	40/45	40"	Brown-Grey; sand with silt + gravel moist	/	SB959		
1035 8/2	10	45/50	40"	" "	/	SB9510		
1055 8/2	11	50/55	60"	Brown-Grey; silt w/ sand moist	/	SB9511	50/52	
1135 8/2	12	55/60	60"	" "	/	SB9512		
1230 8/2	13	60/65	60"	" "	/	SB9513		
1411 8/2	14	65/70	60"	Brown-Grey; sand w/ silt moist to wet @ 66.5-66.8	/	SB9514		
1426 8/2	15	70/75	60"	Brown-Grey; sand w/ silt to silt @ ~73'; moist	/	SB9515		
1450 8/2	16	75/80	60"	Brown; sand w/ silt to 78' to silt. moist to wet @ 78-79.	/	SB9516		

Auger

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE ____ hrs. STANDBY: ____ hrs.
SETUP/CLEANUP: ____ hrs. DECON: ____ hrs.
OTHER: ____

BORING: SB9 SHEET 2 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push - DT37
PROBE DIAM.: TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 69° Sunny

JOB NO: 108906 PROBE NO: SB9
JOB NAME: ANC Fire training Pit
LOGGED BY: AVR
LOCATION: ELEV.:
START DATE: 8/2/23 END DATE: 8/3/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1528 8/2	17	80/85	60"	Brown-Gray; Silt. Moist	/	SB9S17		
1615 8/2	18	85/90	60"	" "	/	SB9S18		
1640 8/2	19	90/95	60"	" "	/	SB9S19		
910 8/3	20	95/100	55"	Brown-Gray; Sand with Silt. Moist	/	SB9S20		
1003 8/3	21	100/105	60"	Brown; Sand with silt. wet from 101-102. Moist to Wet from 100-101 and 102-105 (moist)	/	SB9S21		
1022 8/3	22	105/110	60"	Brown; Sand with silt. Moist to wet @ 107-107.5.	/	SB9S22		
1045 8/3	23	110/115	60"	Brown; Sand w/ silt, wet @ 112-115	/	SB9S23 33	110/112	*Dup*
				advance boring to ~118 to install temp well.				

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
@1125 Temp well in ground. Drillers begin removing tooling. - issues with heave @ bottom of hole. Pull well out → reinstall.
@1220 - well in ground → remove tooling. Finish @ ~~1330~~ 1400 AR

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB9 SHEET 3 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: 8140LS
PROBING METHOD: Sonic
PROBE DIAM.: 6" - 4" TYP. RUN LENGTH: 16'
WEATHER DURING DRILLING: 53° Rain

JOB NO: 103906 PROBE NO: SB11
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJR
LOCATION: ELEV.:
START DATE: 7/6/23 END DATE: 7/8/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
915 7/6/23	1	0/6.5	6.5'	Brown - Gray; Silty Sand, Moist. Trace organics from 0-1.	/	SB1151	0/2.0	
1010 7/6/23	2	6.5/16.5	8'	Brown, Sand with interbedded silt layers. Moist, gravel in last 2 feet of sample.	/	SB1152	10/12	
1035 7/6/23	3	16.5/26.5	9'	Brown, Sand with silt @ 20 feet bgs. Moist to wet @ 24	/	SB1153	20/22	
1100 7/6/23	4	26.5/36.5	7.5'	Brown, Silt. Moist to wet	/			
1120 7/6/23	5	36.5/44.5	10'	" " Moist @ 42'	/			
1155 7/6/23	6	44.5/46.5	2'	" "	/			
1230 7/6/23	7	46.5/56.5	7.5'	" "	/	SB1154	50/52	
1345	8	56.5/66.5	10'	Brown; Silt with Sand, moist.	/			

6"

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB11 SHEET 1 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: 8140LS
PROBING METHOD: Sonic
PROBE DIAM.: 6" TYP. RUN LENGTH: 10'
WEATHER DURING DRILLING: 55° cloudy

JOB NO: 108906- PROBE NO: SB11
JOB NAME: ANC Fire Training Pit
LOGGED BY: AJK
LOCATION: ELEV.:
START DATE: 7/6/23 END DATE: 7/8/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1515 7/6/23	9	66.5 / 74.5	10'	Brown; Silt w/ Sand w/ Interbedded layers of fine-grained Sand. Moist.	/			
1550 7/6/23	10	74.5 / 76.5	5'	Brown; Silty Sand. Moist	/			
1640 7/6/23	11	76.5 / 86.5	10'	Brown; Sand. Moist to Wet @ 85.5	/			
1730 7/6/23	12	86.5 / 96.5	10'	" " Wet from 86.5 - 96.5. Sand w/ Silt and gravel @ 92.	/			
715 7/7/23	13	96.5 / 106.5	9'	Brown; Sand to sand with Silt and trace gravel @ ~101. Moist.	/			
1020 7/7/23	14	106.5 / 116.5	10'	Gray-Brown; Sand w/ Silt Moist	/			
1300 7/7/23	15	116.5 / 126.5	10'	Gray; Sand with Silt. Moist to Wet @ ~~121 - 126.5~~ AR ~121 - 126.5	/			
1330 7/7/23	16	126.5 / 136.5	~~7'~~	Gray; Silt w/ Sand to sand with silt @ 130. Moist to wet @ 130 - 132.	/			

6"
4"

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB11 SHEET 2 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: 8140LS
PROBING METHOD: Sonic
PROBE DIAM.: 4" TYP. RUN LENGTH: 10'
WEATHER DURING DRILLING: 50° Rain

JOB NO: 108906 PROBE NO: SB11
JOB NAME: ANL Fire Training Pit
LOGGED BY: AJR
LOCATION: ELEV.:
START DATE: 7/6/23 END DATE: 7/8/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
—	—	136.5 / 146.5	—	Could not recover 136.5 – 146.5 – Bit got dropped down hole. Drilled past interval to continue to depth of Boring	—	—	—	—
1710 7/7	17	146.5 / 156.5	10'	Gray; Sand w/ silt. Saturated	—	SB11S5	150 / 152	dup - SB11S15
1830 7/7	18	156.5 / 166.5	10'	" "	—			
915 7/8/23	19	166.5 / 176.5	10'	Gray; ~~SILT~~ Silt w/ Sand moist to wet	—			
1005 7/8/23	20	176.5 / 186.5	10'	Gray; Silt, trace sand moist				

4'

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB11 SHEET 3 OF 3

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 64°, partly cloudy

JOB NO: 108906 PROBE NO: SB12
JOB NAME: ANC Fire training Pit
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/7/23 END DATE: 8/7/23

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
855 8/7/23	1	0/5	30"	Brown, sand w/ silt + gravel moist.	/	SB12S1	0/2	
903 8/7/23	2	5/10	30"	" "	/	SB12S2		
910 8/7/23	3	10/15	48	Brown-Gray, Silt, Mast.	/	SB12S3	10/12	
915 8/7/23	4	15/20	48"	Brown-Gry; silt w/ sand. moist to wet from 15-18. moist 18-20.	/	SB12S4		
920 8/7/23	5	20/25	48"	Brown-Gry; Silt w/ sand. moist to wet from ~~23-25~~ 22-23 ft	/	SB12S5	20/22	
925 8/7/23	6	25/30	48"	Brown-Gry; Silt with sand. moist to wet from 26-28.	/	SB12S6		
930 8/7/23	7	30/35	60"	" " moist to wet from 30-32	/	SB12S7		
943 8/7/23	8	35/40	60"	" " wet from 35-39.	/	SB12S8		

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB12 SHEET 1 OF _____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 64°, Partly cloudy

JOB NO: 108906 PROBE NO: SB12
JOB NAME: ANC Fire Training Pit
LOGGED BY: AH
LOCATION: _____ ELEV.: _____
START DATE: 8/7/23 END DATE: _____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
950 8/7	9	40/45	48"	Brown; Grey; ~~Sandy~~ silt w/ sand moist	/	SB12S09		
1007 8/7	10	45/50	40"	" " Sand w/ silt. moist.	/	SB12S10		
1020 8/7/23	11	50/55	48"	" "	/	SB12S11	50/52	
1033 8/7/23	12	55/60	48	" "	/	SB12S12		
1045 8/7/23	13	60/65	36"	" "	/	SB12S13	63/65	@1120
1110 8/7/23	14	65/70	48"	Brown; Sand with silt & gravel. wet from 65-70	/	SB12S14		

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
1130 Began installing well to 70'

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB12 SHEET 2 OF 2

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geoprobe
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 65°, Sunny

JOB NO: 1089106 PROBE NO: SB13
JOB NAME: ANC Fire Training P-1
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/7/23 END DATE: _____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM / TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM / TO	SAMPLE PURPOSE OR COMMENT
1450 8/7	1	0/5	48"	Brown; Sand with silt + trace gravel, organics near surface (0-0.3'), moist	1	SB1351	0/2	
1458 8/7	2	5/10	48"	Brown; Sand with silt, moist and gravel.	1	SB1352		
1503 8/7	3	10/15	30"	" "	1	SB1353	10/12	
1508 8/7	4	15/20	18"	" "	1	SB1354		
1515 8/7	5	20/25	24"	Brown-Gray; Silt w/ trace gravel, moist	1	SB1355	20/22	
1523 8/7	6	25/30	60"	Brown-Gray; Sand w/ silt, gravel, and organics (wood), moist	1	SB1356		
1535 8/7	7	30/35	60"	Gray; Silt, moist	1	SB1357		
1544 8/7	8	35/40	60"	" "	1	SB1358		

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB13 SHEET 1 OF _____

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIELD LOG OF GEOPROBE

PROBING COMPANY/DRILLER: Geotek
PROBE RIG EQUIPMENT: Geoprobe 8040
PROBING METHOD: Direct Push
PROBE DIAM.: _____ TYP. RUN LENGTH: 5'
WEATHER DURING DRILLING: 65° Sunny

JOB NO: 108906 PROBE NO: SB13
JOB NAME: ANC Fire training Pit
LOGGED BY: AJR
LOCATION: _____ ELEV.: _____
START DATE: 8/7/23 END DATE: _____

PROBE RUN AND SAMPLE DATA

TIME / DATE	RUN NO.	RUN FROM	RUN TO	LENGTH RECOVERED	FIELD CLASSIFICATION [Density/consistency, color, slightly, minor, MAJOR, then trace constituents; moisture; structure; other; (Geology) USCS classification.]	PID READING	SAMPLE NO.	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	SAMPLE PURPOSE OR COMMENT
1550 8/7	9	40	45	60"	Gray; Silt with varying amounts of sand moist to wet from 40-41.5, moist 41.5-45.	/	SB13S9			
1600 8/7	10	45	50	60"	Gray; Silt. moist	/	SB13S10			
1630 8/7	11	50	55	60"	" "	/	SB13S11	50	52	
1650 8/7	12	55	60	60"	Gray; Silt. moist to wet	/	SB13S12			
1710 8/7	13	60	65	60"	Gray; Silt w/ sand. moist	/	SB13S13			
1800 8/7	14	65	70	60"	Gray; Sand w/ Silt. moist	/	SB13S14			
910 8/8	15	70	75	36"	Gray-Black; Sand w/ Silt moist to wet @ 73	/	SB13S15 S25	910	930	Dup 71/73
950 8/8	16	75	80	60"	Gray; Sand w/ Silt. wet from 75-78. moist from 78-80	/	SB13S16			

SUMMARY FIELD LOG OF GEOPROBE

DEPTH FROM	DEPTH TO	USCS CLASSIF.	GENERALIZED SOIL DESCRIPTION FOR DRAFTED GINT LOG

COMMENTS (i.e. materials used, visitors, problems, etc.):
495

GROUNDWATER DATA

WATER DEPTH	TIME	DATE

SUMMARY OF TIME AND FOOTAGE

PROBE/SAMPLE _____ hrs. STANDBY: _____ hrs.
SETUP/CLEANUP: _____ hrs. DECON: _____ hrs.
OTHER: _____

BORING: SB13 SHEET 2 OF _____

Shannon & Wilson, Inc.

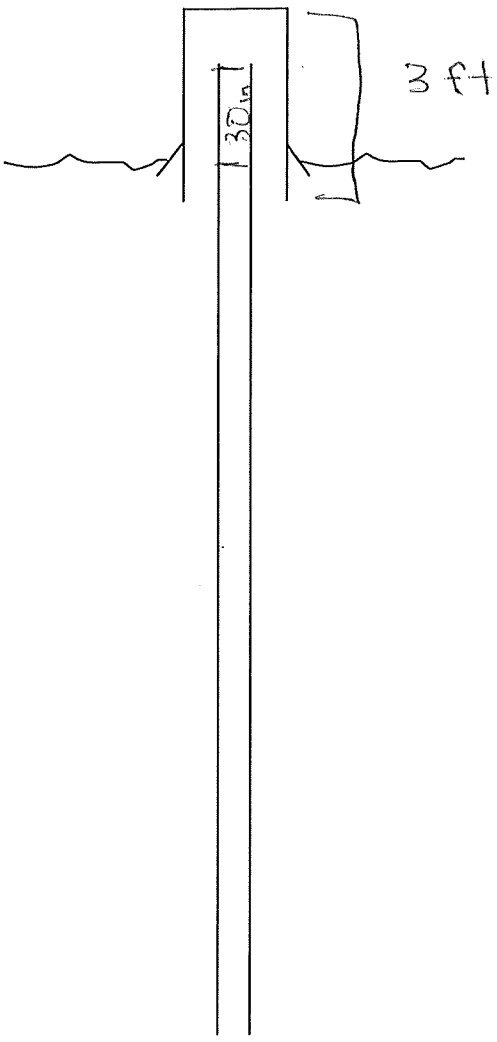
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC Firetraining Pit

Weather: 10° sunny

Well No.: BIMW

Date: 2/20/23 Time Started: 1400 Time Completed: 1630



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): ~72

Well Screen Interval (feet): 10

Top of Well Screen (ft bgs): 62

Slot size: 0.010

Casing Connection: Threaded

Depth below surface: _____ N/A ☐

Casing stickup: _____ N/A ☐

PACKING MATERIAL:

	Depth below ground surface: From	To	
Pea Gravel	2 -	0	
Soil Cuttings:	55 -	2	rest
Sand (20-40):	~~72~~ AR	~~60~~ AR	
Bentonite chips:	60	55	~5 feet
Sand (20-40):	72	60	~12 ft

MONUMENT:

Flush Mount ☐ Post ☒

Monument height: _____ N/A ☐

Monument Diameter: _____ N/A ☐

LOCK:

Type: _____

Combination: _____

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: ADW

Shannon & Wilson, Inc.

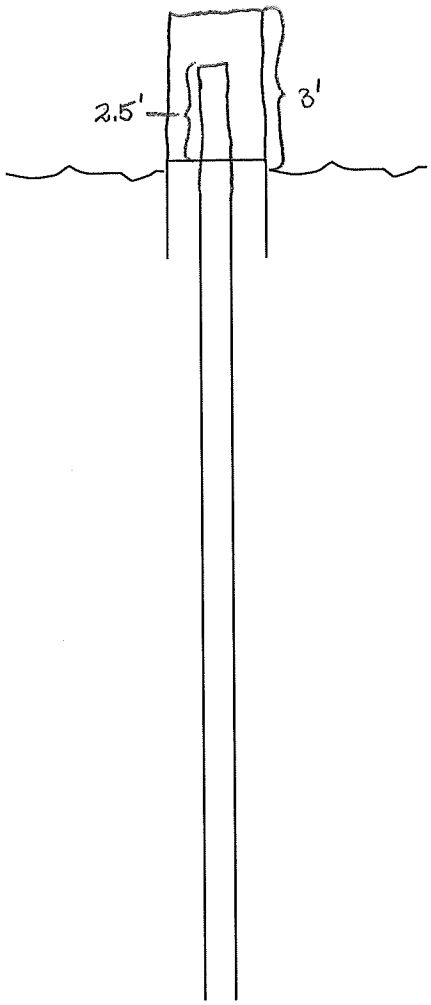
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC Firetraining Pit D

Weather: 20° overcast

Well No.: B2MW

Date: 2/22/23 Time Started: 10:30 Time Completed: 12:45



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): ~75'

Well Screen Interval (feet): 10'

Top of Well Screen (ft bgs): ~65'

Slot size: 0.010

Casing Connection: Threaded.

Depth below surface: — N/A ☑

Casing stickup: _____ N/A ☐

PACKING MATERIAL:

	Depth below ground surface: From	To
Pea Gravel	2	0
Soil Cuttings:	58	2
~~Sand (20-40)~~:	-	-
Bentonite chips:	~63	~58
Sand (20-40):	75	63

MONUMENT:

Flush Mount ☐ Post ☑

Monument height: _____ N/A ☐

Monument Diameter: _____ N/A ☐

LOCK:

Type: _____

Combination: _____

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: ZST

Shannon & Wilson, Inc.

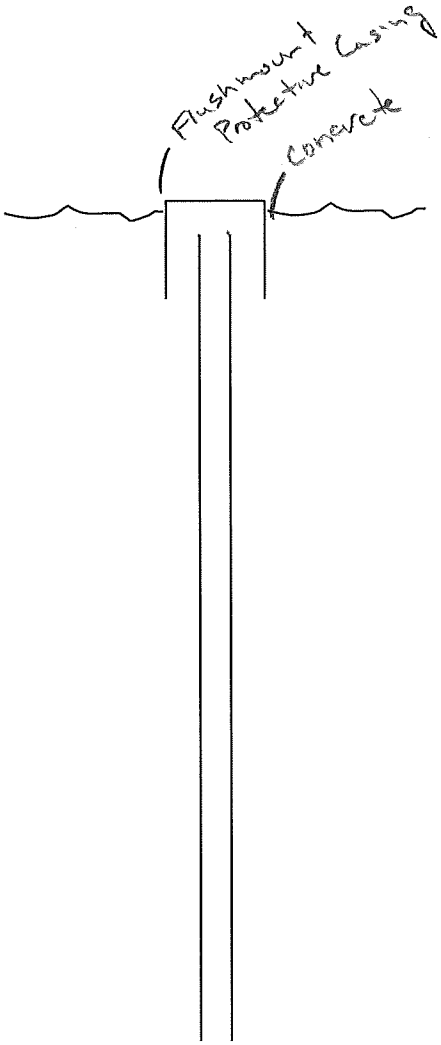
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC Firetraining Pit

Weather: 27° Snowing

Well No.: B3MW

Date: 2/23/23 Time Started: 12:00 Time Completed: 14:00



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): ~70'

Well Screen Interval (feet): 10

Top of Well Screen (ft bgs): ~60'

Slot size: 0.010

Casing Connection: Threaded

Depth below surface: — N/A ☑

Casing stickup: — N/A ☑

PACKING MATERIAL:

	Depth below ground surface: From	To
Pea Gravel	2	0
Soil Cuttings:	53	2
Sand (20-40):	—	—
Bentonite chips:	58	53
Sand (20-40):	70	58

MONUMENT:

Flush Mount ☑ Post ☐

Monument height: _____ N/A ☐

Monument Diameter: _____ N/A ☐

LOCK:

Type: —

Combination: —

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: ZJT

Shannon & Wilson, Inc.

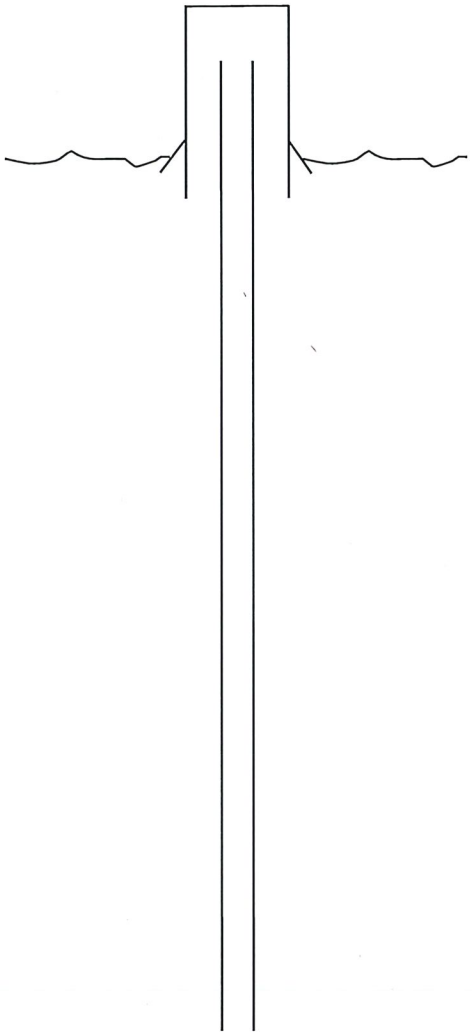
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC Fire Training Pit

Weather: 55° cloudy

Well No.: ~~SB~~ MW

Date: 7/8/23 Time Started: 1045 Time Completed: 1300



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): ~160

Well Screen Interval (feet): 160 - 140

Top of Well Screen (ft bgs): 140'

Slot size: 0.010

Casing Connection: Threaded

Depth below surface: _____ N/A ☐

Casing stickup: _____ N/A ☑

PACKING MATERIAL:

	Depth below ground surface: From		To	
~~Soil Cuttings~~ Bentonite	45	-	10	
~~Sand (20-40)~~ cuttings	80	-	45	
Bentonite chips:	133	-	80	
Sand (20-40):	160	-	133	
cuttings	170.5	-	160	

pea gravel / cuttings 10 - 0 ft bgs.

MONUMENT:

Flush Mount ☐ Post ☒

Monument height: 3' N/A ☐

Monument Diameter: 7" N/A ☐

LOCK:

Type: _____

Combination: _____

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: AR

Shannon & Wilson, Inc.

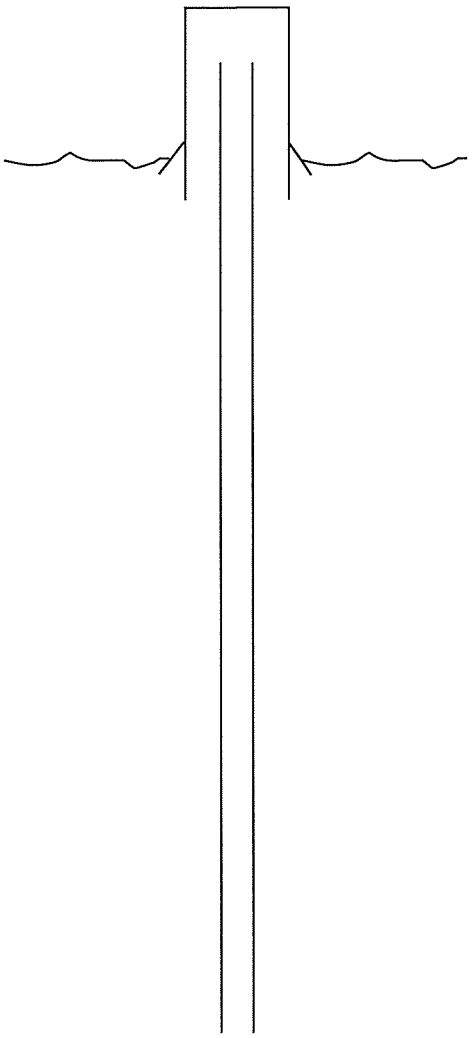
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC fire training pit

Weather: 65° partly cloudy

Well No.: B12MW

Date: 8/7/23 Time Started: 1130 Time Completed:



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): 70'

Well Screen Interval (feet): 10'

Top of Well Screen (ft bgs): 60'

Slot size: 0.010

Casing Connection: Threaded

Depth below surface: _____ N/A ☐

Casing stickup: 2.5' N/A ☐

PACKING MATERIAL:

	Depth below ground surface: From	To
Soil Cuttings:	42	0
~~Sand (20-40)~~:		
Bentonite chips:	56	42
Sand (20-40):	70	56

MONUMENT:

Flush Mount ☐ Post ☒

Monument height: _____ N/A ☐

Monument Diameter: _____ N/A ☐

LOCK:

Type: _____

Combination: _____

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: AJR

Static

DTW: 67.95 BTOC

DTB: 72.11 BTOC

Shannon & Wilson, Inc.

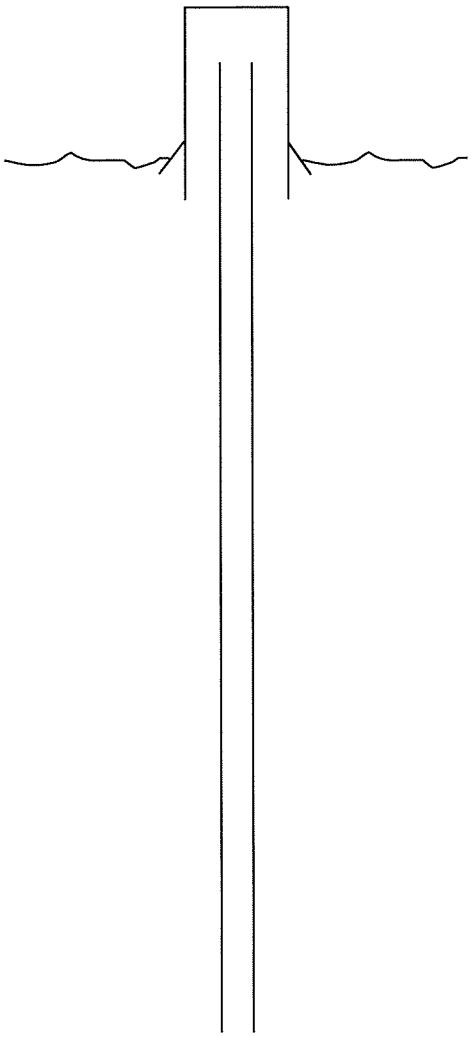
MONITORING WELL CONSTRUCTION DETAILS

Job No: 108906 Project: ANC Fire Training Pit

Weather: 55° Rain/partly cloudy

Well No.: B13MW

Date: 8/8/23 Time Started: 955 Time Completed: 1225



WELL DATA:

Pipe Type: Sched 40

Diameter: 2"

Total Depth (ft bgs): 78

Well Screen Interval (feet): ~~68~~ 10'

Top of Well Screen (ft bgs): 68'

Slot size: 0.010

Casing Connection: Threaded

Depth below surface: _____ N/A ☐

Casing stickup: 2.5' N/A ☐

PACKING MATERIAL:

	Depth below ground surface: From	To
Soil Cuttings:	~~50~~	0
Sand (20-40):		
Bentonite chips	~~65~~ 63'	50'
Sand (20-40):	78	~~65~~ 63'

AM

MONUMENT:

Flush Mount ☐ Post ☒

Monument height: 3' N/A ☐

Monument Diameter: _____ N/A ☐

LOCK:

Type: _____

Combination: _____

Length cutoff last section: _____

Remarks: _____

Time between installation/development: _____

Engineer or Geologist: MJK

WELL DEVELOPMENT LOG

Shannon & Wilson, Inc.

Job No: 108906 Location: ANC Fire Training Pit Weather: 10°

Concern: Well No.: BMW

Develop Date: 3/14/23 - 3/15/23 Time Started: 1130 (3/14/23) Time Completed: 1455 3/15/23

PURGING DATA

Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:

Time of Depth Measurement: 1130

Diameter of Casing: 1" ☐ 2" ☒

Total Depth of Well Below MP:	73.52	
Depth-to-Water (DTW) Below MP:	67.10	
Water Column in Well:	6.42	(Total Depth of Well Below MP - DTW Below MP)
Gallons per foot:	0.17	
Gallons in Well:	1.09	(Water Column in Well x Gallons per foot)
Three Well Volumes:	3.27	(Gallons in Well x 3)
Gallons Purged:	~~8.2~~ 8.15	HR

DEVELOPMENT DATA

Odor: None Color: Silty Brown

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
3/15/23 1410	1.3	3.19	635	5.17	6.25	119.9	327.6

Surging	Surging Time (minutes)	Gallons Purged (total)	Purging Time (minutes)
3/14/23 1	5 (1130-1135)	1	2 (1135-1137) purged dry
3/14/23 2	5 (1330-1335)	2	1330-1630 purged dry
3/15/23 3	5 (1115-1120)	3	5 (1120-1125) purged dry
4	5 (1220-1225)	4.25	5 (1225-1230) purged dry
5	5 (1300-1305)	5.55	5 (1305-1310) purged dry
6	5 (1400-1405)	6.85	5 (1405-1410) purged dry

Evacuation Method: Proactive Pump / Other: Double Whale Bailer. Surge Block: 1

Pump Depth:

Remarks: Well purged dry during development. used bailer / surge block to develope well (pump malfunction due to turbid water) * let well sit to sample on 3/16

Sampling Personnel: AJR

Surging	Surging Time	Gallons Purged (total)	Purging time
3/15/23 7	5 (1440-1445)	8.15	5 (1445-1450) purged dry.

MONITORING WELL SAMPLING LOG

Owner/Client ANC
Location ANC Fire Training Pit
Sampling Personnel AJR
Weather Conditions cloudy Air Temp. (°F) 10°

Project No. 108906-002
Date 3/16/23
Well B1MW
Time started 1000
Time completed 1155

Sample No. 108906-B1MW Time 1032
Field Blank ~~Duplicate~~ 108906-FB Time 1115
Equipment Blank 108906-EB Time 1140

Pump Triple Whale
Purging Method ~~portable~~ / *dedicated pump*
Pumping Start 1030
Purge Rate (gal./min.) 0.1
Pumping End 1045

Pump Set Depth Below MP (ft.) ~69
KuriTec Tubing (ft.) ~75
TruPoly Tubing (ft.)

Diameter and Type of Casing 2"
Approximate Total Depth of Well Below MP (ft.)
Measured Total Depth of Well Below MP (ft.) 73.52
Depth to Water Below MP (ft.) 67.45
Depth to Ice (if frozen) Below MP (ft.) —
Feet of Water in Well 6.07
Gallons per foot 0.17
Gallons in Well 1.03
Purge Water Volume (gal.) 0.6
Purge Water Disposal 55 gal DrUM → GAC

Monument Condition New

Casing Condition New

Wiring Condition (dedicated pumps)

Measuring Point (MP) *Top of Casing (TOC)*

Monument type: (Stickup) / *Flushmount*
Measurement method: *Rod & level / Tape measure*

Top-of-casing to monument (ft.)
Monument to ground surface (ft.)

Datalogger type n/a
Datalogger serial # n/a
Measured cable length (ft.) n/a

☐ Lock present and operational
☑ Well name legible on outside of well
☐ Evidence of frost-jacking

Notes placed pump @ 69 ft btoc, purged → collected sample

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

Well No.

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI 556 Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations _____

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	~~Water~~ Water Clarity (visual)
1045	1.04	6.03	670	6.23	163.0	~~Silty~~ silty/cloudy (175.3)

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	DRO/RRO	2	HCl	☐
☐	GRO	3	HCl	☐
☐	VOCs	3	HCl	☐
☐	PAHs	2	4C	☐
☐	PFAS	2	4C	☐
☐				☐

Well No.

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: AWC Fire Training Pit Weather: 10°

Concern: Well No.: B2MW

Develop Date: 3/15/23 - 3/16/23 Time Started: 1125 3/15/23 Time Completed: 1430 3/16/23

PURGING DATA

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____

Time of Depth Measurement: ~~1140 on~~ 1125

Diameter of Casing: 1" ☐ 2" ☒

Total Depth of Well Below MP: 78.72

Depth-to-Water (DTW) Below MP: 68.30

Water Column in Well: 10.42 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.17

Gallons in Well: 1.77 (Water Column in Well x Gallons per foot)

Three Well Volumes: ~~5.31~~ 5.31 (Gallons in Well x 3)

Gallons Purged: 26.8

DEVELOPMENT DATA

Odor: None Color: Silty Brown

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
3/15/23 1900	2.8	3.01	515	6.92	6.17	134.1	>1000

Surging	Surging Time (minutes)	Gallons Purged (Total)	Purging Time (minutes)
1	1140 - 1145 (5)	2.5	1145 - 1150 (5)
2	1330 - 1335 (5)	5.5	1335 - 1340 (5)
3	1420 - 1425 (5)	8.5	1425 - 1430 (5)
4	1240 - 1245 (5)	12.0	1245 - 1250 (5)
5	1500 - 1505 (5)	14.8	1505 - 1510 (5)
6	1205 - 1210 (5)	18.8	1210 - 1215 (5)

3/15/23 ↓ 3/16/23 move

purged dry

Evacuation Method: Proactive Pump / Other: Bailer Surge Block: 1'

Pump Depth: —

Remarks: Well purged dry during development. Used bailer/ surge block — let well sit to sample on 3/17/23

Sampling Personnel: AJR

Surging	Surging Time	Gallons purged (total)	Purging Time
7	1325 - 1330 (5)	22.8	1330 - 1335 (5)
8	1415 - 1420 (5)	26.8	1420 - 1425 (5)

MONITORING WELL SAMPLING LOG

Owner/Client: ANC
Location: ANL Fire training Pit
Sampling Personnel: ADL
Weather Conditions: ____ Air Temp. (°F) ____

Project No. 108906-002
Date 3/17/23
Well BZMW
Time started 1300
Time completed ____

Sample No. 108906-BZMW Time 1330
Duplicate 108906-BZMW Time 1400
Equipment Blank — Time —

Pump Triple whale
Purging Method *portable / dedicated pump*
Pumping Start 1328
Purge Rate (gal./min.) 0.2
Pumping End 1350

Pump Set Depth Below MP (ft.) ~70
KuriTec Tubing (ft.) ~75
TruPoly Tubing (ft.) ____

Diameter and Type of Casing ____
Approximate Total Depth of Well Below MP (ft.) ____
Measured Total Depth of Well Below MP (ft.) ____
Depth to Water Below MP (ft.) 68.70
Depth to Ice (if frozen) Below MP (ft.) 78.72
Feet of Water in Well 10.02
Gallons per foot 0.17
Gallons in Well 1.70
Purge Water Volume (gal.) 0.5
Purge Water Disposal 55 gal drum → GAC

Monument Condition Good- New
Casing Condition Good- New
Wiring Condition (dedicated pumps) ____

Measuring Point (MP) *Top of Casing (TOC)*
Monument type: *Stickup* / *Flushmount*
Measurement method: *Rod & level* / *Tape measure*

Top-of-casing to monument (ft.) ____
Monument to ground surface (ft.) ____

Datalogger type n/a
Datalogger serial # n/a
Measured cable length (ft.) n/a

- ☐ Lock present and operational
- ☒ Well name legible on outside of well
- ☐ Evidence of frost-jacking ____

Notes Dropped pump → collected sample

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

Well No.

MONITORING WELL SAMPLING LOG

Field Parameter Instrument _____ Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations _____

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
	2.68	6.213	682	6.26	134.9	116.3 → cloudy

Laboratory SGS / Eurofins

	Analysis	Sample Containers	Preservatives	Dup
☐	6PFO	3	HCl	☒
☐	VOCs	3	HCl	☒
☐	DRO/PRO	2	HCl	☒
☐	PAHs	2	4C	☒
☐	PFAS	2	4C	☒
☐				☐

Well No.

3/14/23 - ANC Fire training Pit

1100 arrive onsite to develope wells

1130 @ B1MW
well purged dry fairly quickly/
pump seemed to be clogged.
water was very turbid w/
high amounts of sediment. Let
well recharge for 40 minutes.
Well had 2 feet of water in it
and pump wasn't pulling water.
@ this time only 1 gal of
water was removed.

Well	DTW	DTB
B1MW	67.10	73.52
B2MW	68.30	78.70
B3MW	68.12	69.00

Head back to office to get
waterra to try and remove
sediment from well B1MW.

1330 @ Site again. Used waterra
on B1MW. Removed an
additional gallon before
well went dry.

1630 Depart Site for office

1730 End of Day

Rite in the Rain.

3/15/23 - ANC Fire training Pit

1120 arrive onsite to develope wells

B1MW

DTW - 67.20

DTB - 73.52

1 well volume - 1.01 gal

Surge well (5 mins). then

* removed ~1 gal of water (~1 well volume). will let well recharge and surge again (w/ Baiter)

1140 Head to B2MW

B2MW

DTW - 68.23

DTB - 78.70

1 well volume - 1.68 gal

* Removed ~2.5 gal before well went dry (w/ baiter)

1220 Head back to B1MW

B1MW

DTW: 67.30 → Surge for 5 mins

Removed 1.25 gal of water before well went dry

1240 Head to B2MW

DTW: 68.30 → Surge for 5 mins.

Removed 3.5 gal

3/15/23 ANC Fire Pit

1300 Head to B1MW

DTW: 67.48 → Surge for 5 min

Removed 1.3 gal of water before going dry.

1330 Head to B2MW

DTW - 68.32 → Surge 5 mins

Purged 3 gal of water

1400 Head to B1MW

DTW - 67.50 → Surge for 5 mins

Purged 1.3 gal

1420 Head to B2MW

DTW: 68.76 → surge for 5 mins

Purged 3 gal of water

1440 Head to B1MW

DTW - 67.47

Purged 1.3 gal

Parameters

Temp - 3.19 °C

Cond. 635

DO - 5.17

pH - 6.25

ORP - 119.9

Turbidity - clear/silty 327.6

~~IGW~~

Rite in the Rain

1500 Head to B2MW
DTW: 68.92
Purged 2.8 gal

Parameters -

Temp - 3.01
cond. 515
DO 6.92
PH 6.17
ORP 134.1
Turbidity >1000

3/16/23 ANC Fire Training Pit.

945 Arrive @ ANC Pit. → Prep to sample B1MW
1000 @ B1MW
1032 Collect Sample 108906-B1MW
1115 Collect Field blank
1140 Collect Equipment Blank
AP ~~1150~~
1155 Finish decon / packing up from sample collection. Head to B2MW to continue developing.
1205 @ B2MW
DTW - 69.15
DTB - 78.72
*surge for 5 mins
Purged 4 gal w/ Bailer → head to B3MW
1240 @ B3MW
DTW - 68.80
DTB - ~69.00
* need to add PFAS Free water to dedger well. (3 gal) purged 1 gal before it went dry.

Rite in the Rain.

3/16/23 ANC Fire Pit

1325 @ B2MW
DTW - 69.51 →
Surge for 5 mins
Purged 4 gal

1355 talked with PM, going to close B3MW and keep an eye on water levels for possible future sampling since well was almost Dry.

1415 @ B2MW
DTW - 69.62
Surge for 5 mins
purged 4 gal.

Rite in the Rain

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: ANC Fire Train P4 Weather: 61° overcast
Concern: — Well No.: B11MW
Develop Date: 7/19/23 Time Started: 11:30 Time Completed: 16:45

PURGING DATA

Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other: _____
Time of Depth Measurement: 11:40
Diameter of Casing: 1" ☐ 2" ☑
Total Depth of Well Below MP: 162.07
Depth-to-Water (DTW) Below MP: 107.40
Water Column in Well: 54.67 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 8.75 (Water Column in Well x Gallons per foot)
Three Well Volumes: 26.24 (Gallons in Well x 3)
Gallons Purged: _____

DEVELOPMENT DATA

Odor: None Color: Grey-brown

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
PTW 112.6						
12:06	4.0	6.31	0.396	7.25	-365.4	>1000
12:26	8.0	6.86	0.263	7.98	-397.7	>1000
12:46	12.0	7.46	0.538	9.06	-344.6	>1000
13:06	16.0	8.02	0.708	9.27	-238.2	>1000
13:26	20.0	7.89	0.469	9.20	-244.1	>1000
13:46	24.0	7.87	0.388	9.17	-277.1	>1000

Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)
1	11:50 - 11:55	4.0	11:55 - 12:05
2	12:07 - 12:12	8.0	12:15 - 12:25
3	12:28 - 12:33	12.0	12:35 - 12:45
4	12:47 - 12:53	16.0	12:55 - 13:05
5	13:07 - 13:12	20.0	13:15 - 13:25
6	13:27 - 13:32	24.0	13:35 - 13:45

Evacuation Method: Proactive Pump / Other: Waterra Hydro2 Surge Block: 3.0'

Remarks: _____

Sampling Personnel: ZJT

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: ANC Fire Traing Pit Weather: 61° overcast
Concern: — Well No.: B11MW
Develop Date: 7/19/23 Time Started: 11:30 Time Completed: 16:45

PURGING DATA

Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Time of Depth Measurement: 11:40
Diameter of Casing: 1" ☐ 2" ☑
Total Depth of Well Below MP: 162.07
Depth-to-Water (DTW) Below MP: 107.40
Water Column in Well: 54.67 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 8.75 (Water Column in Well x Gallons per foot)
Three Well Volumes: 26.24 (Gallons in Well x 3)
Gallons Purged:

DEVELOPMENT DATA

Odor: None Color: Grey-brown

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
14:06	28.0	7.41	0.302	9.11	-290.1	>1000
14:26	32.0	7.02	0.264	9.07	-398.5	>1000
14:46	36.0	6.80	0.417	9.22	-296.6	>1000
15:06	40.0	7.32	0.297	9.16	-324.4	

Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)
1	13:47 - 13:52	28.0	13:55 - 14:05
2	14:07 - 14:12	32.0	14:15 - 14:25
3	14:27 - 14:32	36.0	14:35 - 14:45
4	14:47 - 14:52	40.0	1455 - 15:05
5			
6			

Evacuation Method: Proactive Pump / Other: Waterra Hydro Z Surge Block: 3.0'

Remarks:

Sampling Personnel: ZST

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

MONITORING WELL SAMPLING LOG

Owner/Client: Anchorage Airport
Location: ANC Fire Training Pit
Sampling Personnel: ZDT, AJR
Weather Conditions: Overcast, wind NE 3 Air Temp. (°F) 61

Project No. 108906
Date 7-20-23
Well B11MW
Time started 11:30
Time completed 16:45

Sample No. 108906-B11MW Time 1425 7/20/23
Duplicate — Time —
Equipment Blank — Time —

Pump Waterra Hydro-2
Purging Method *portable / dedicated pump*
Pumping Start 11:55
Purge Rate (gal./min.) 4.0
Pumping End

Pump Set Depth Below MP (ft.) ~145'-146'
KuriTec Tubing (ft.) —
TruPoly Tubing (ft.) 175'

Diameter and Type of Casing 2.0" Sched 40
Approximate Total Depth of Well Below MP (ft.) —
Measured Total Depth of Well Below MP (ft.) 162.07
Depth to Water Below MP (ft.) 107.40
Depth to Ice (if frozen) Below MP (ft.) —
Feet of Water in Well 54.67
Gallons per foot 0.17
Gallons in Well 9.29
Purge Water Volume (gal.)
Purge Water Disposal GAC discharge to ground

Monument Condition New
Casing Condition New
Wiring Condition (dedicated pumps) NA

Measuring Point (MP) *Top of Casing (TOC)*

Monument type: *(Stickup)* / *Flushmount*
Measurement method: *Rod & level* / *(Tape measure)*

Top-of-casing to monument (ft.) 0.66
Monument to ground surface (ft.) 2.57

Datalogger type n/a
Datalogger serial # n/a
Measured cable length (ft.) n/a

☑ Lock present and operational
☑ Well name legible on outside of well
☐ Evidence of frost-jacking No

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

Well No.

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI 556 Circle one: *Parameters stabilized or* >3 well volumes purged

Sample Observations Sample 103906-BIIMW collected @ 1425 on 7/20/23

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
14:20	6.50	4.39	409	6.67	32.7	Clear 20.02 NTU

Laboratory ~~SGS~~ Eurofins

	Analysis	Sample Containers	Preservatives	Dup
☐	PFAs	2x plastic	4C	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No.

8/22/23 108906 59° overcast

9:30 - ANC office load gear, Cal. YSI 556 + Micro TPW, Mob. to site.
11:20 - Arrive on-site. Set-up to develop BBMW; Begin Purge @ 11:50
13:20 - Collect Field Blank: 108906-FB2
14:17 - Collect Sample 108906-BBMW w/ duplicate.
1430 - Set up to sample MW-04
1536 - Collect Sample 108906-MW-04
16:00 - Head to IDW drums to treat w/ GAC drums
16:20 - Set up @ Drums (First set) begin treating IDW w/ GACs
17:00 - Set up @ 2nd drum IDW to treat w/ GACs
1715 - collect Effluent Sample from GAC outlet of IDW
- Decon pump for 10 min - collect equipment blank
108906-EB2 collected @ 17:45
1800 - Load up gear depart site.
18:30 - ANC office de-mob gear. Ice samples for next day ship

End Day

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: AIA Fire Training Pit Weather: 62° Sunny
Concern: — Well No.: B12MW
Develop Date: 8/17/23 Time Started: 12:00 Time Completed: 16:45

PURGING DATA

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____
Time of Depth Measurement: 12:17
Diameter of Casing: 1" ☐ 2" ☑
Total Depth of Well Below MP: ~72.20
Depth-to-Water (DTW) Below MP: 65.98
Water Column in Well: 6.22 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.995 (Water Column in Well x Gallons per foot)
Three Well Volumes: ~2.99 (Gallons in Well x 3)
Gallons Purged: _____

DEVELOPMENT DATA

Odor: None Color: Tan - Brown

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)	
12:43	0.25	11.98	453	5.84	168	>1000	Well Purged Dry
13:13	1.25	10.80	434	5.30	-34	>1000	" " "
13:29	1.75	10.88	414	5.29	-48	>1000	" " "
13:49	2.50	9.25	392	5.91	-63	>1000	" " "
14:10	3.5	9.45	400	5.46	-6.0	290.9	
14:28	4.5	9.75	406	5.44	-7.0	192.3	
1446	5.5	9.52	388	5.45	0.0	71.89	" " "
1512	6.5	9.61	413	5.49	-14	39.65	

Surge 1428-1431, 1446-1449
Purge 1435-1445, 15:02-1512

Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)	
1	12:35-12:40 (5)	0.25	12:40-12:42 (2)	Well Purged Dry
2	13:00-13:03 (3)	1.00	13:05-13:12 (7)	" " "
3	13:20-13:23 (3)	1.75	13:25-13:28 (3)	" " "
4	13:35-13:38 (3)	2.50	13:39-13:48 (9)	" " "
5	13:55-13:58 (3)	3.50	14:00-14:10 (10)	
6	14:12-14:15 (3)	4.5	14:17-14:27 (10)	

Evacuation Method: Proactive Pump / Other: Triple Whale Surge Block: 2.0'
Remarks: Sample collected @ 16:00

Sampling Personnel: ZJT

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: AIA Fire Training Pit Weather: 62° Sunny

Concern: — Well No.: B12MW

Date: 8/17/23 Time Started: 12:00 Time Completed:

DEVELOPMENT DATA CONTINUED

Surge	Purge	Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
15:15-15:18	1520-1530	15:31	7.5	9.81	371	5.50	26	19.40
1532-1535	15:37-1557	15:58	8.5	9.74	396	5.51	17	15.02

Remarks:

Sampling Personnel:

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL PURGED DRY LOG

Job No: 108906 Location: AIA Fire Training Pit Weather: 62° Sunny
Concern: — Well No.: B12MW
Date: 8/17/23 Time Started: 12:00 Time Completed: 1645

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 12:17 Date of Depth Measurement: 8/17/23
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: Bottom 10'
Total Depth of Well Below MP: 72.2' Product Thickness, if noted: —
Depth-to-Water (DTW) Below MP: 65.98
Water Column in Well: 6.22 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.0 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 8/17/23 Time Started: 12:40 Time Completed: 16:05
80% Recovery Water Column: 4.98 (Water Column in Well x 0.8)
80% Recovery DTW: 67.22 (Initial DTW + (Water Col. – 80% Recovery Water Col.)
65.98 6.22 4.976

Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate
12:42	13:00	66.00	NA
13:12	13:18	67.22	NA
13:28	13:35	67.22	NA

FIELD PARAMETERS AT TIME OF SAMPLING

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft BMP):	Temp: (°C)	Sp. Cond.: (uS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
15:58	8.5	0.2	66.90	1.08	9.74	396	5.51	17	15.02

SAMPLING DATA

Odor: None Color: Brown
Sample Designation: 108906-B12MW Time / Date: 16:00 8/17/23
QC Sample Designation: / Time / Date:
QA Sample Designation: / Time / Date:

Evacuation Method: Whale Pump/Bladder Pump / Other: Triple Whale
Sampling Method: Whale Pump/Bladder Pump / Other: Triple Whale

Remarks: The well purged dry a total of 4 times during development

Sampling Personnel: ZJT

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL DEVELOPMENT LOG

Job No: 108906 Location: AIA Fire Training Pit Weather: 59° overcast
Concern: — Well No.: B13MW
Develop Date: 8/22/23 Time Started: 11:25 Time Completed: 1515

PURGING DATA

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____
Time of Depth Measurement: 11:29
Diameter of Casing: 1" ☐ 2" ☑
Total Depth of Well Below MP: 81.40
Depth-to-Water (DTW) Below MP: 73.10
Water Column in Well: 8.30 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.33 (Water Column in Well x Gallons per foot)
Three Well Volumes: 3.98 (Gallons in Well x 3)
Gallons Purged: _____

DEVELOPMENT DATA

Odor: None Color: Grey

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
12:06	1.5	9.78	588	6.07	-135.5	>1000
12:17	2.2	10.50	517	6.73	-493.1	>1000
12:51	3.2	10.65	560	6.70	-407.5	>1000
13:07	4.2	10.36	564	6.67	-226.8	931.4
1327	5.5	10.33	643	6.52	-262.4	285.5
13:47	6.5	10.37	663	6.50	-261.0	139.8
1406	7.5	10.35	656	6.54	-264.2	62.3
14:16	8.5	10.38	649	6.57	-270.2	31.9

Surge 1357-1400, 1406-1409 Purge 1400-1405, 1410-1415

Surging	Surging Time (minutes)	Gallons Purged	Purging Time (minutes)
1	11:35 - 11:40 (5)	1.5	11:50 - 12:05 (15)
2	12:07 - 12:10 (3)	2.2	12:11 - 12:16 (5)
3	12:35 - 12:38 (3)	3.2	12:40 - 12:50 (10)
4	12:52 - 12:55 (3)	4.2	12:57 - 13:07 (10)
5	13:08 - 13:11 (3)	5.5	13:12 - 13:27 (15)
6	13:28 - 1331 (3)	6.5	1333 - 13:47 (15)

DTW
79.04
Well Purged Dry
-
-
-
Well purged Dry

Evacuation Method: Proactive Pump / Other: Triple Whale Surge Block: 2.0'

Remarks: Cal. YSI 556 + Micro TPW @ 9:00
Sample 108906-B13MW @ 1417 + Dup 108906-B23MW @ 1447

Sampling Personnel: ZJT

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL PURGED DRY LOG

Job No: 108906 Location: AEA Fire Training Pit Weather: 59° overcast
Concern: — Well No.: B13MW
Date: 8/22/23 Time Started: 1125 Time Completed: 1515

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1129 Date of Depth Measurement: 8/22/23
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: Bottom 10'
Total Depth of Well Below MP: 81.40 Product Thickness, if noted: —
Depth-to-Water (DTW) Below MP: 73.10
Water Column in Well: 8.30 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.33 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 8/22/23 Time Started: 11:50 Time Completed: 1500
80% Recovery Water Column: 6.64 (Water Column in Well x 0.8)
80% Recovery DTW: 74.76 (Initial DTW + (Water Col. – 80% Recovery Water Col.)

Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate
12:16	12:38	75.00	—
13:47	13:57	74.76	—

FIELD PARAMETERS AT TIME OF SAMPLING

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft BMP):	Temp: (°C)	Sp. Cond.: (uS/cm)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
1416	8.5	X	74.76	~	10.38	649	6.57	-270.2	31.9

SAMPLING DATA

Odor: None Color: Grey
Sample Designation: 108906-B13MW Time / Date: 1417 8/22/23
QC Sample Designation: 108906-B23MW Time / Date: 1447 8/22/23
QA Sample Designation: — Time / Date: —

Evacuation Method: Whale Pump/Bladder Pump / Other: Triple Whale
Sampling Method: Whale Pump/Bladder Pump / Other: Triple Whale

Remarks:

Sampling Personnel: ZJT

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

MONITORING WELL SAMPLING LOG

Owner/Client —
Location AIA Fire Training Pit
Sampling Personnel ZJT
Weather Conditions 60° sunny Air Temp. (°F)

Project No. 108906-002
Date 8/22/23
Well MW-04
Time started 14:30
Time completed 15:55

Sample No. 108906-MW-04 Time 1536
Duplicate — Time —
Equipment Blank — Time —

Pump Triple Whale
Purging Method *portable / dedicated pump*
Pumping Start 1502
Purge Rate (~~gal/min.~~) 0.3 L/min
Pumping End 1540

Pump Set Depth Below MP (ft.) ~71.0'
KuriTec Tubing (ft.) 75.0'
TruPoly Tubing (ft.) —

Diameter and Type of Casing 2"
Approximate Total Depth of Well Below MP (ft.) —
Measured Total Depth of Well Below MP (ft.) 80.21
Depth to Water Below MP (ft.) 65.11
Depth to Ice (if frozen) Below MP (ft.) —
Feet of Water in Well 15.10
Gallons per foot 0.17
Gallons in Well 2.57
Purge Water Volume (gal.)
Purge Water Disposal Filtered w/ GAC System

Monument Condition Broken outer casing - steel top missing
Casing Condition Moderate to poor ~ cap in place (inner casing intact.)
Wiring Condition (dedicated pumps) —

Measuring Point (MP) *Top of Casing (TOC)*
Monument type: *Stickup* */ Flushmount*
Measurement method: *Rod & level / Tape measure* NA

Top-of-casing to monument (ft.) — 0.0
Monument to ground surface (ft.) — 0.0

Datalogger type n/a
Datalogger serial # n/a
Measured cable length (ft.) n/a

- ☐ Lock present and operational
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking See condition notes + photos

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

Well No.

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI 556 Circle one: (Parameters stabilized) or >3 well volumes purged

Sample Observations —

Notes — Sample time 1536

FIELD PARAMETERS [stabilization criteria]

BH = 65.64
DTW
65.65
65.66

Time	Temp. (°C) [± 3%]	~~Dissolved Oxygen (mg/L) [±10%]~~	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	NTU Water Clarity (visual)	
1507	11.22	X	902	6.89	140.4	47.63	
1512	11.00		918	6.90	88.90	23.27	
1517	9.21		965	6.87	79.60	21.05	
1522	9.27		970	6.86	58.4	19.47	
1527	9.38		980	6.88	44.2	16.67	—
15:32	9.44		981	6.88	34.6	16.92	—
15:35	9.51		985	6.89	29.2	16.04	—

Laboratory ~~SGS~~ Eurofins

	Analysis	Sample Containers	Preservatives	Dup
☐	PFAS	2	4C	☐ No
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No.

8/9/23

B16TMW + B16TMW @1430 @1430

MONITORING WELL SAMPLING LOG

Field Parameter Instrument _____ Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations Silty

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1425	11.3	—	756	6.27	-183	Silty

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	PFAS	2	4C	☑ (B16TMW)
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Static

DTW - 72.90 btoc

DTB - 81.20 btoc

Stickup - 1.00

Well No.

B8 TMW

MONITORING WELL SAMPLING LOG

8/5/23

Field Parameter Instrument _____ Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations Silty

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
918	11.4	—	—	5.75	-53	silty - L. brown

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	PFAS	2	4C	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DTW - 39.11 BTOC

DTB - 51.02 BTOC

Sample @ 920

stickup 1.02

Well No.

8/4/23

B9TMW

MONITORING WELL SAMPLING LOG

Field Parameter Instrument _____ Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations Silty

Notes Temp well

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C) [± 3%]	Dissolved Oxygen (mg/L) [±10%]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1428	12.7	—	797	5.69	-301	Silty

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	PFAS	2	4C	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DTW - 113.25

DTB - 117.37

stickup - 1'

Well No.

SURFACE WATER SAMPLE LOG

Date: 6/6/23	Project: ANC Fire Training Pit
Field Investigators: AJK / ZJT	
Name of Water Body: Drainage Ditch	
Location of Water Body:	
Type of Water Body: Drainage Ditch	
Sample Location: SW1 / SD1	
Sample Number: 108906-SW1	Sample Time: 950
108906-SD1	1000
Method of Collection: GRAB	
Temperature (°C): 11.93	
pH: 7.16	
Conductivity: 389 µs/cm	
DO (mg/l): 9.45	
Turbidity (NTU): clear - yellow tint	
Appearance:	
Analyses requested: ~~PFAS~~	
Comments:	

Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER/SAMPLE LOG
Sediment

Date: 6/12/25	Project: ANC Fire Training Pit
Field Investigators: MVR / ZJT	
Name of Water Body: Drainage Ditch	
Location of Water Body:	
Type of Water Body: Drainage Ditch	
Sample Location: SW2 / SD2	
Sample Number: 108906-SW2	Sample Time: 1010
108906-SD2	1015
Method of Collection: GRAB	
Temperature (°C): 12.69	
pH: 7.21	
Conductivity: 425	
DO (mg/l): 2.26	
Turbidity (NTU): Clear - Yellow tint	
Appearance:	
Analyses requested: PFAS	
Comments:	

Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER SAMPLE LOG

Date: 6/6/23 Project: ANC Fire Training Pit

Field Investigators: ADV/ZVT

Name of Water Body: Drainage Ditch

Location of Water Body:

Type of Water Body: Drainage Ditch

Sample Location: SW3/SD3

Sample Number: 108906-SW3 Sample Time: 1030
108906-SD3 1035

Method of Collection: GRAB

Temperature (°C): 13.08

pH: 7.61

Conductivity: 391

DO (mg/l): 5.16

Turbidity (NTU): Clear - yellow tint

Appearance:

Analyses requested: PFAS

Comments:

Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER/SAMPLE LOG
Sediment

Date: 10/10/23	Project: ANC Firefighting Pit
Field Investigators: AJR/ZdT	
Name of Water Body: Drainage Ditch	
Location of Water Body:	
Type of Water Body: Drainage Ditch	
Sample Location: SW4/SD4	
Sample Number: 108906-SW4	Sample Time: 1045
108906-SD4	1050
Method of Collection: GRAB	
Temperature (°C): 14.05	
pH: 7.69	
Conductivity: 363	
DO (mg/l): 8.12	
Turbidity (NTU): Clear - Yellow tint	
Appearance:	
Analyses requested: PFAS	
Comments:	

Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER SAMPLE LOG

Date: 6/6/23	Project: ANC Fire Training Pit
Field Investigators: AJR / ZJT	
Name of Water Body: Drainage Ditch	
Location of Water Body:	
Type of Water Body: Drainage Ditch	
Sample Location: SW5 / SD5	
Sample Number: 108986-SW5	Sample Time: 1105 / 1120 *
108986-SD5	1110 / 1125 *
Method of Collection: GRAB	
Temperature (°C): 12.07	
pH: 7.70	
Conductivity: 344	
DO (mg/l): 7.11	
Turbidity (NTU): Clear - yellow tint	
Appearance:	
Analyses requested: PFAS	
Comments: Duplicate Samples * SW15 / SD15 -X	

Product Observed?	Yes	(No)
Product Collected?	Yes	~~No~~

Checked By:

SURFACE WATER SAMPLE LOG

Date: 6/6/23		Project: ANC Fire training Pit	
Field Investigators: AJK / ZJT			
Name of Water Body: Fire train pit			
Location of Water Body:			
Type of Water Body: Fire training Pit			
Sample Location: SW6 / SD6			
Sample Number: 108906-SW6		Sample Time: 1140	
108906-SD6		1145	
Method of Collection: GRAB			
Temperature (°C): 15.96			
pH: 7.93			
Conductivity: 246			
DO (mg/l): 7.86			
Turbidity (NTU): Clear - yellow tint			
Appearance:			
Analyses requested: PFAS			
Comments: Petroleum odor / staining in soils			
Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER SAMPLE LOG

Date: 6/16/23	Project: ANL Fire Training Pit
Field Investigators: AJR/ZJT	
Name of Water Body: OWS Aeration/ setting Pond	
Location of Water Body:	
Type of Water Body: OWS Aeration/ setting Pond	
Sample Location: SW-7	
Sample Number: 108106-SW7	Sample Time: 1130
Method of Collection: Grab	
Temperature (°C): 14.09	
pH: 8.31	
Conductivity: 2.54	
DO (mg/l): 7.05	
Turbidity (NTU): Clear- yellow tint	
Appearance:	
Analyses requested: PFAS	
Comments:	

Product Observed?	Yes	(No)	
Product Collected?	Yes	(No)	

Checked By:

SURFACE WATER SAMPLE LOG

Date: 6/6/23	Project: ANL Fire training Pit
Field Investigators: ASR / ZJT	
Name of Water Body: Pond south of fire traing Area	
Location of Water Body:	
Type of Water Body: Pond South of fire traing Area	
Sample Location: SW-8	
Sample Number: 108906-SW8	Sample Time: 1200
Method of Collection: Grab	
Temperature (°C): 13.80	
pH: 7.50	
Conductivity: 114	
DO (mg/l): 9.68	
Turbidity (NTU): clear - yellow tint	
Appearance:	
Analyses requested: PFAS	
Comments:	

Product Observed?	Yes	No	
Product Collected?	Yes	No	

Checked By:

9/11/23 AWC Five training PH AJR

Time	Well	DTW	DTB
1140	B2MW	67.95	79.04
1202	B1MW	66.82	73.60
1215	B3MW	68.72	68.80
1225	B12MW	65.78	72.20
1232	B13MW	72.92	81.40

Drums	
B2MW	6
B1MW	5
B3MW	6

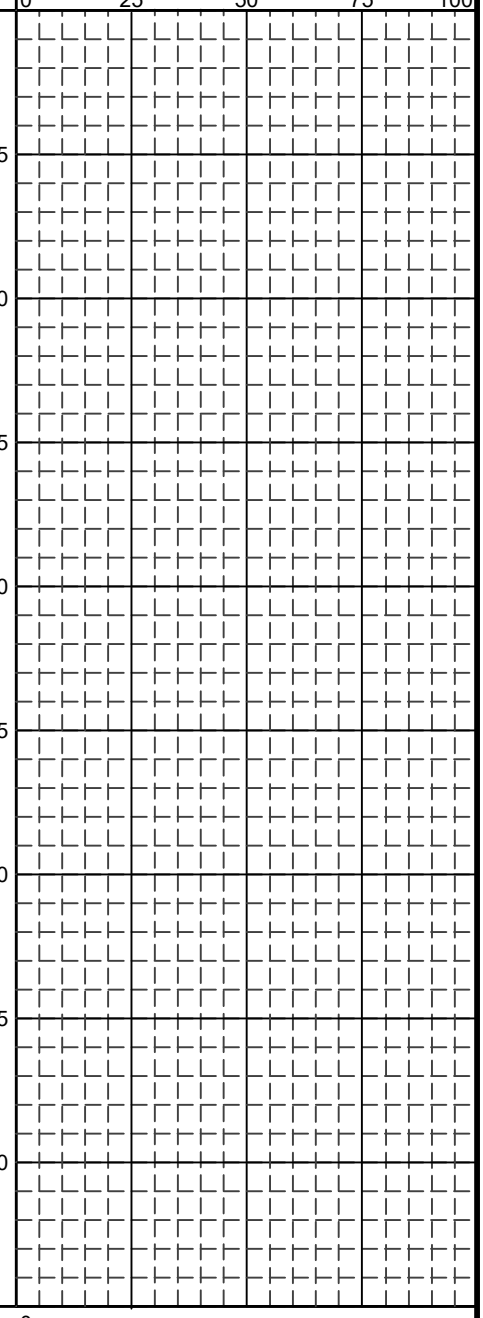
Scale: 1 square = _____

Rite in the Rain

Appendix C

Boring and Monitoring Well Construction Logs

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot
Brown to Gray, *Sand with varying amounts of Silt and Gravel*; frozen to moist			S1		
			S2		
			S3		
CONTINUED NEXT PAGE					



LEGEND

- * Sample not recovered
- Direct Push
- Frozen
- Ground Water Level At Time Of Drilling
- Static Water Level
- Solid Casing, Sand Pack
- Solid Casing and Annular Seal
- Slotted Section, Filter Sand
- Solid Casing, Cuttings Backfill
- ■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

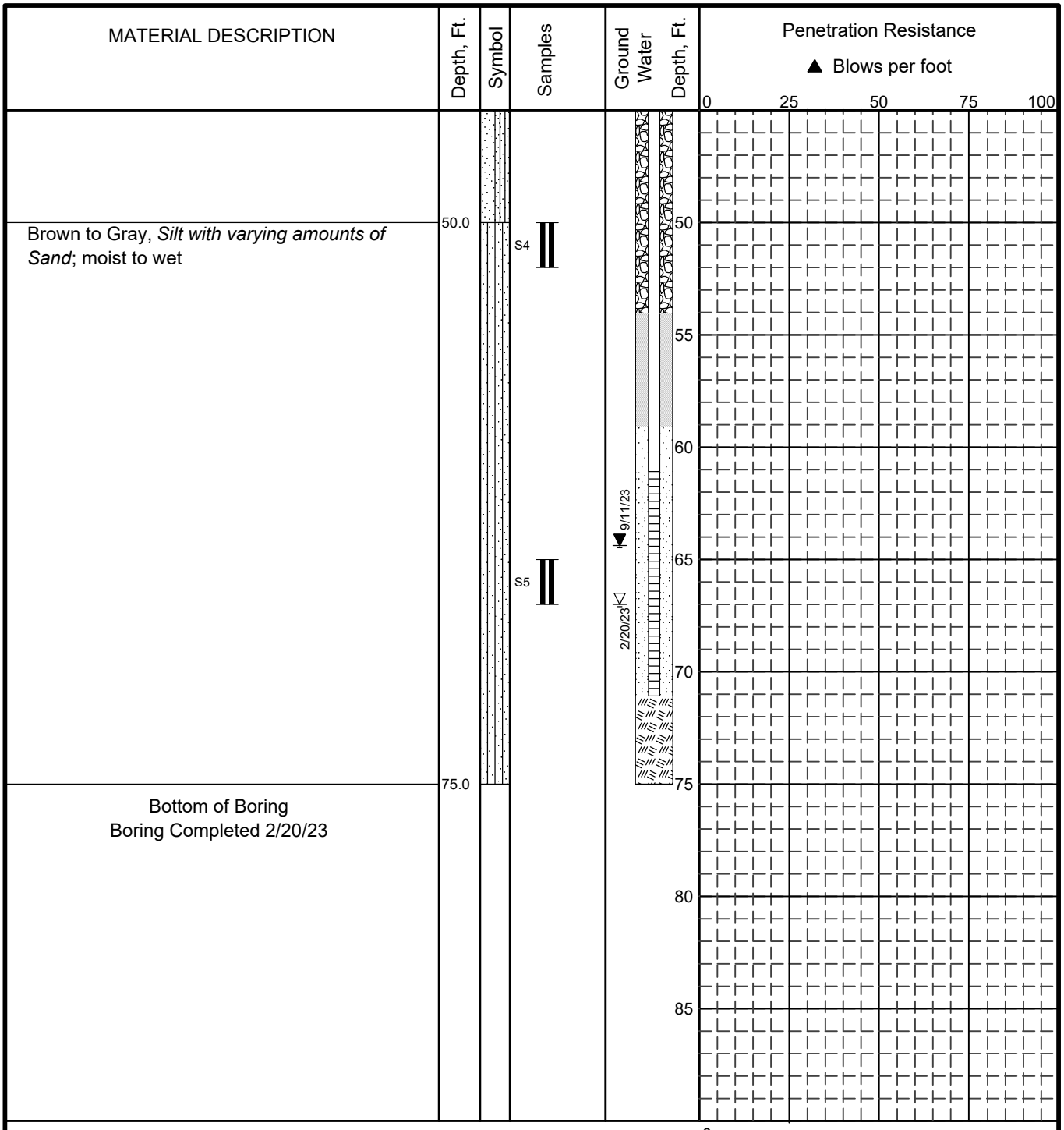
LOG OF BORING SB1

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-1
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered
Direct Push
Frozen
Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB1

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-1
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot
Brown to Gray, *Sand with varying amounts of Silt and Gravel*; frozen to moist			S1		
Brown to Gray, *Silt with Sand*; moist to wet	10.0		S2		
			S3		
CONTINUED NEXT PAGE					

0 25 50 75 100

5 10 15 20 25 30 35 40

0

LEGEND

* Sample not recovered

Direct Push

Frozen

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB2

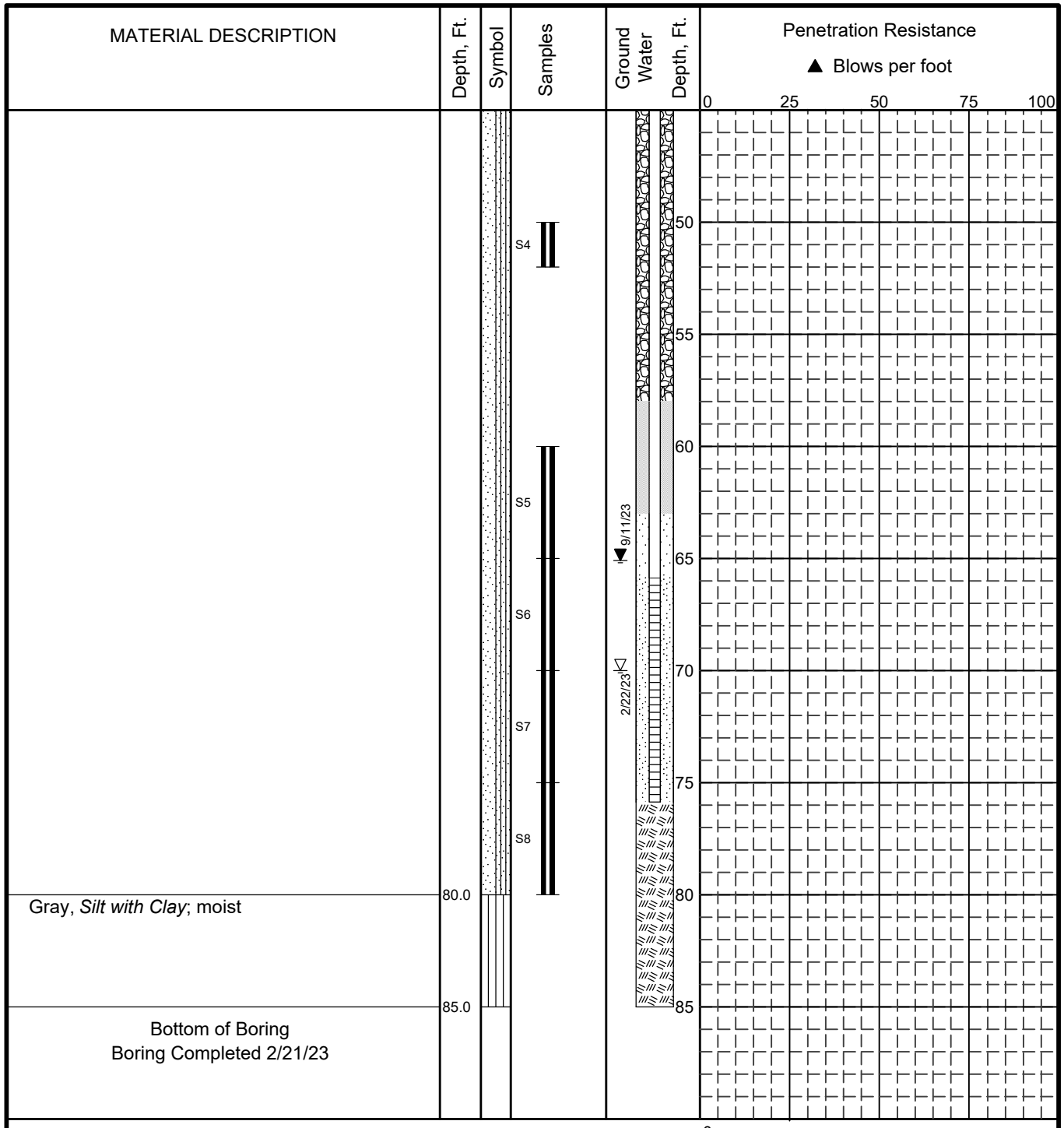
February 2024

108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-2
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Frozen

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB2

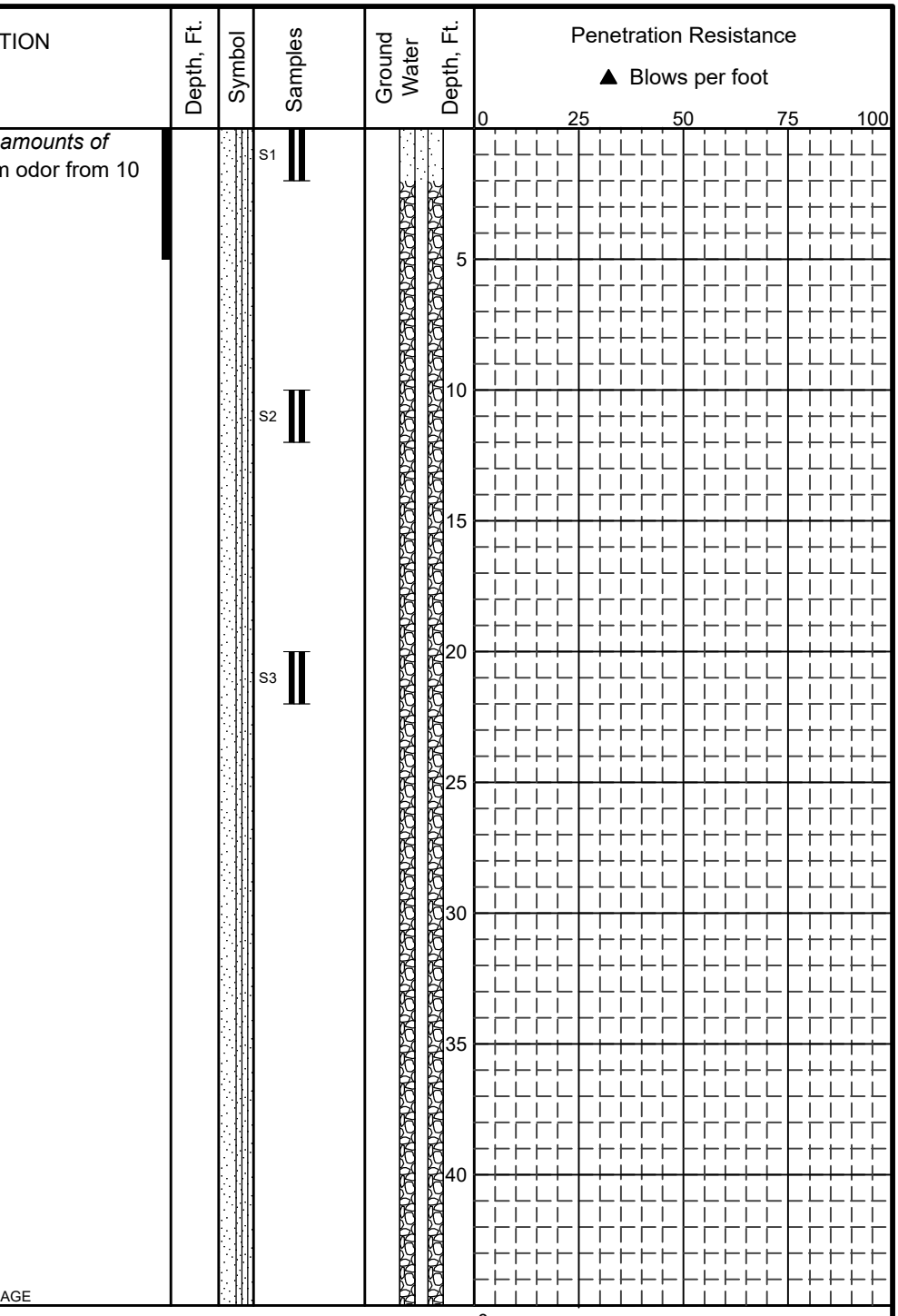
February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-2
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot
Brown to Gray, *Silt with varying amounts of Sand*; frozen to moist. Petroleum odor from 10 to 12 feet bgs.			S1		0 25 50 75 100
			S2		5 10 15 20 25 30 35 40
			S3		
CONTINUED NEXT PAGE					0



LEGEND

* Sample not recovered
Direct Push
Frozen
Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill
■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

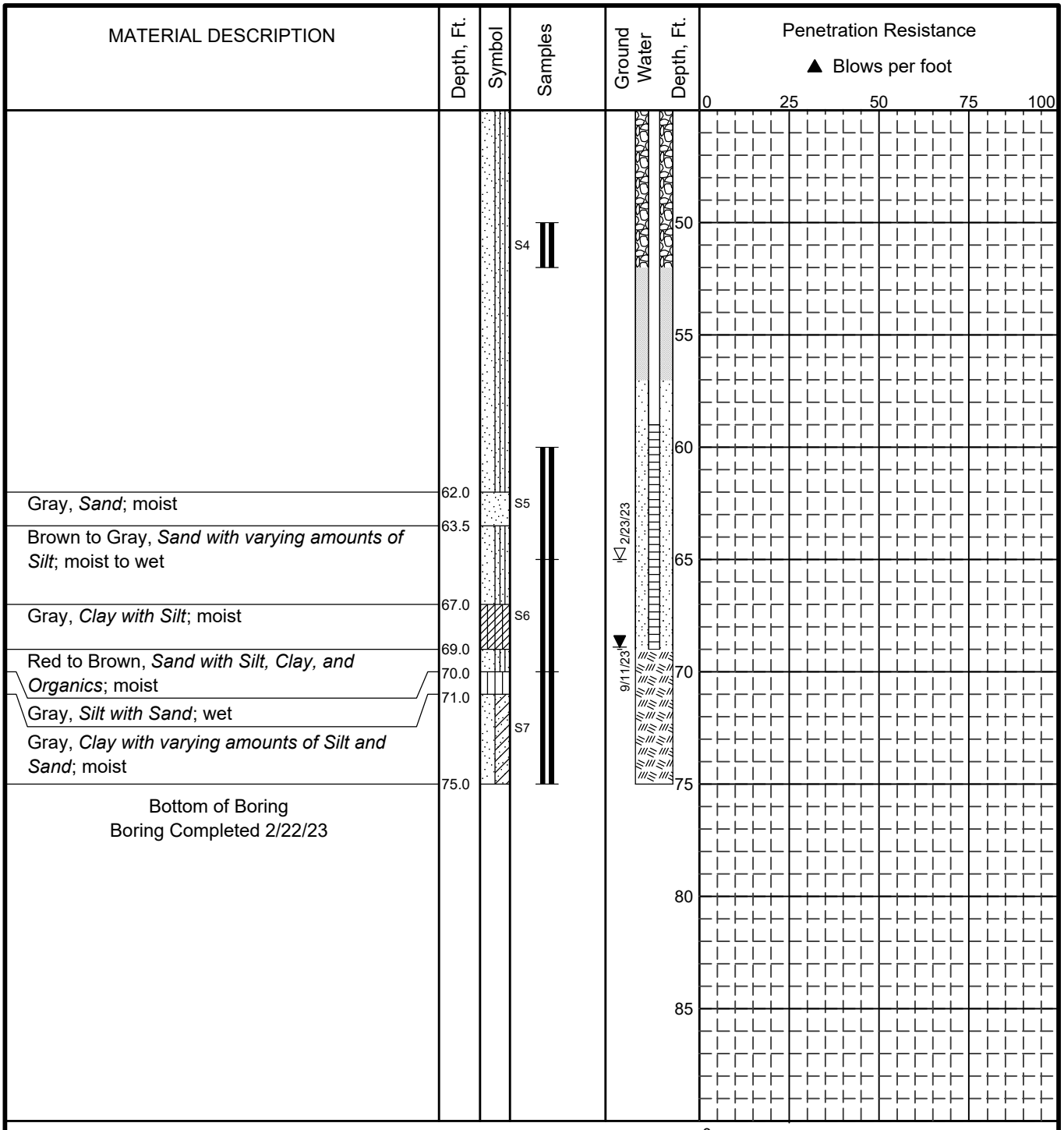
LOG OF BORING SB3

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-3
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered
Direct Push
Frozen
Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

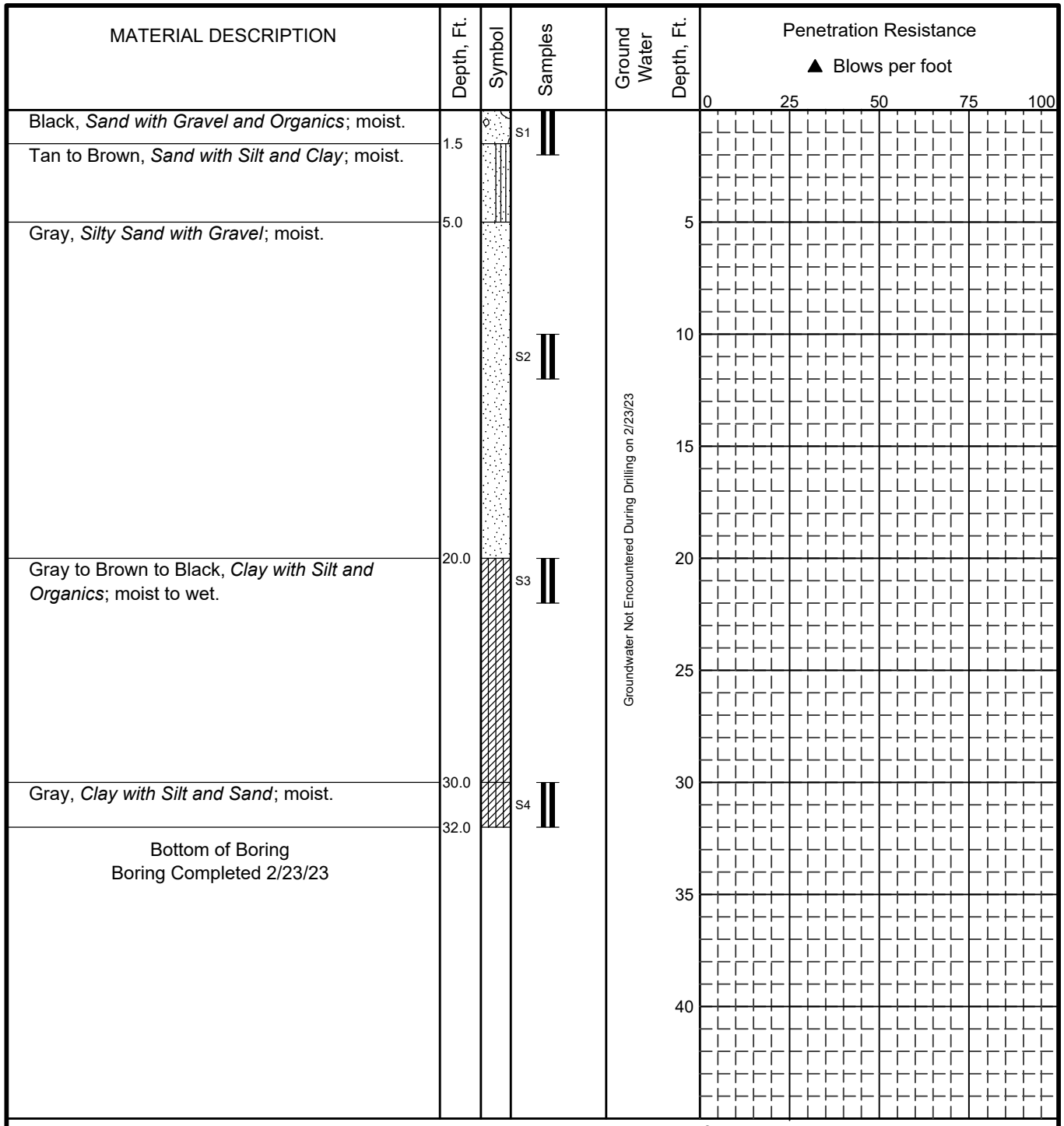
LOG OF BORING SB3

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-3
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

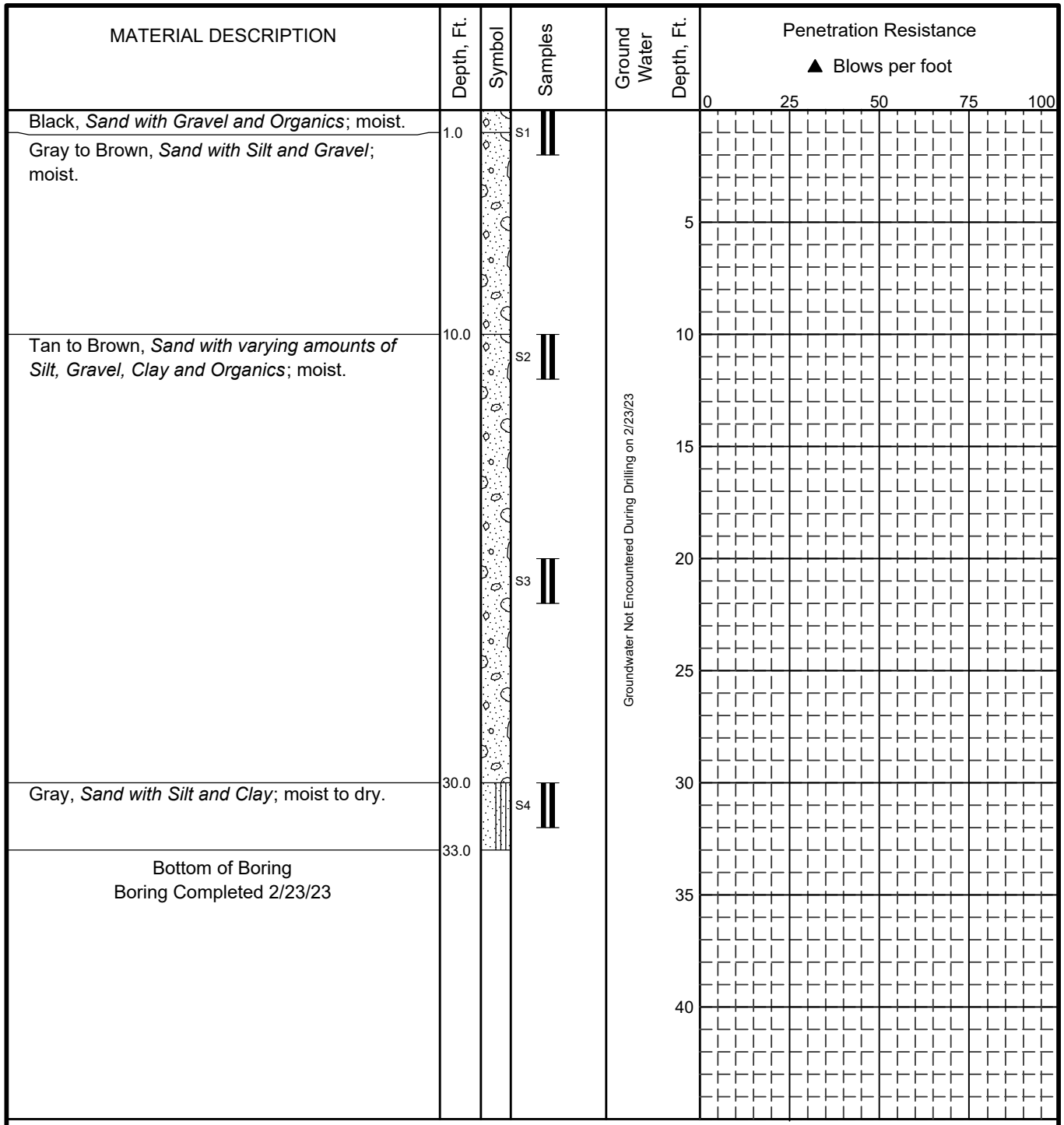
LOG OF BORING SB4

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-4

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB5

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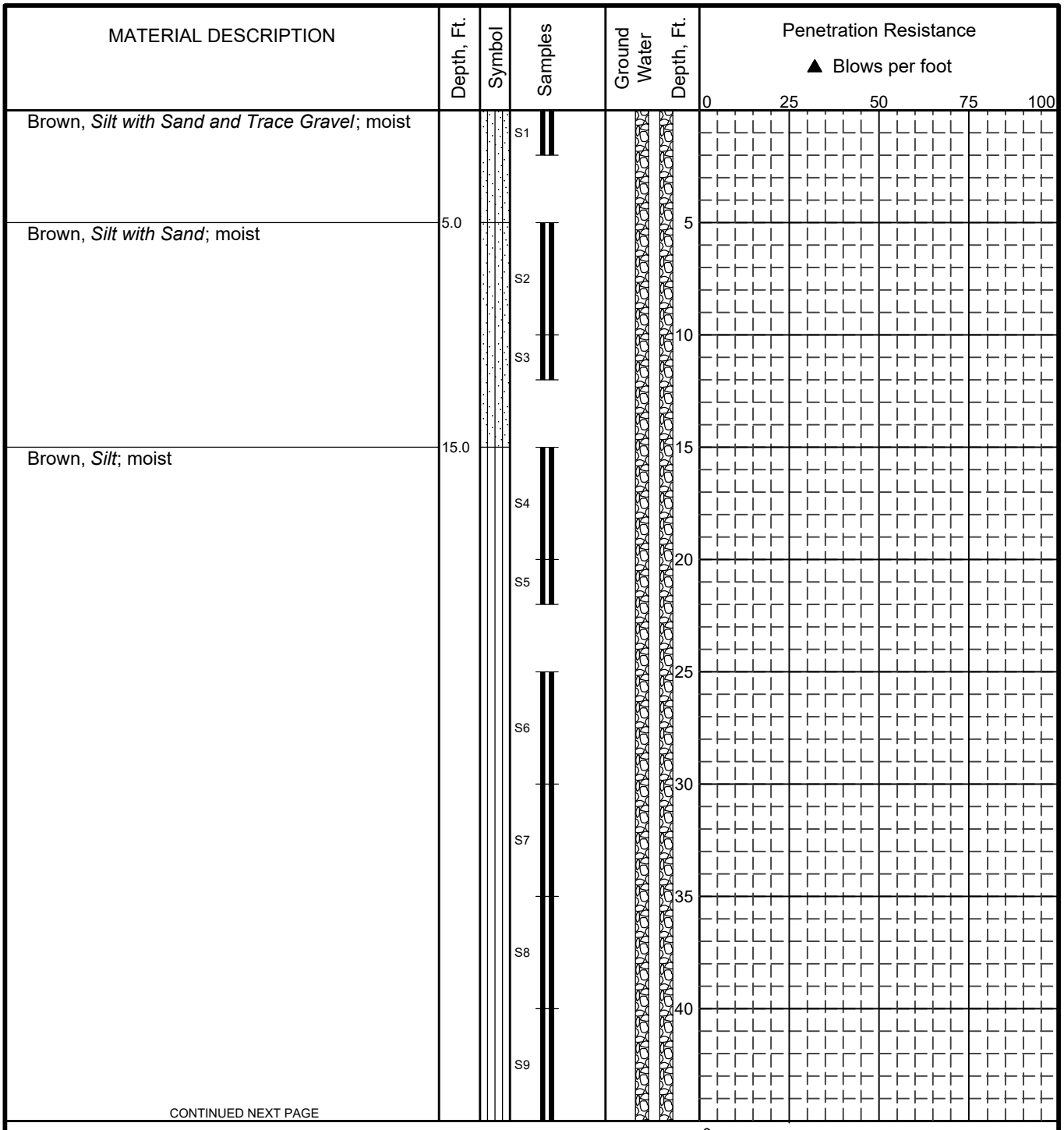
FIG. C-5

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB6

February 2024

108906-003

SHANNON & WILSON, INC.
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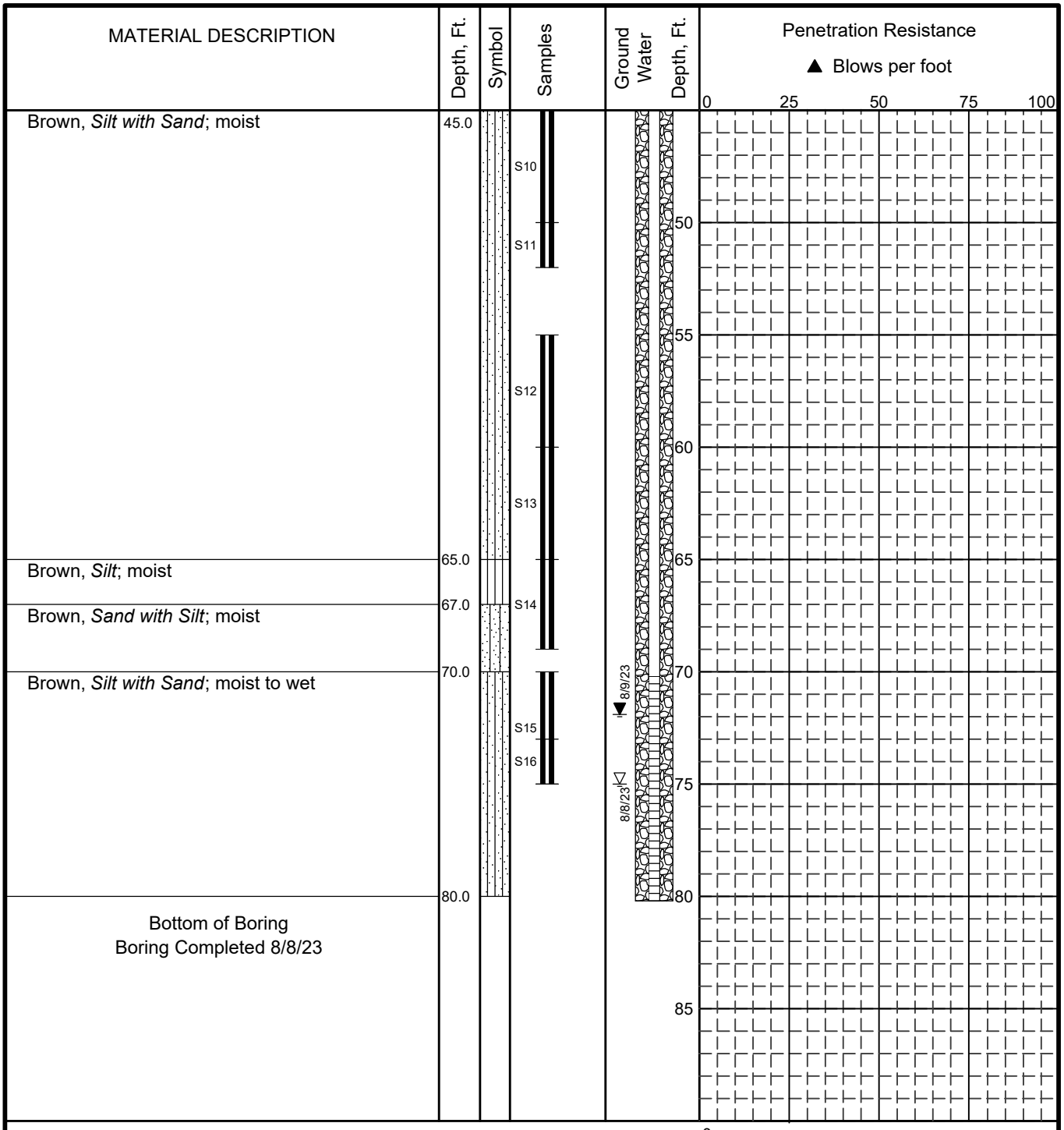
FIG. C-6
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB6

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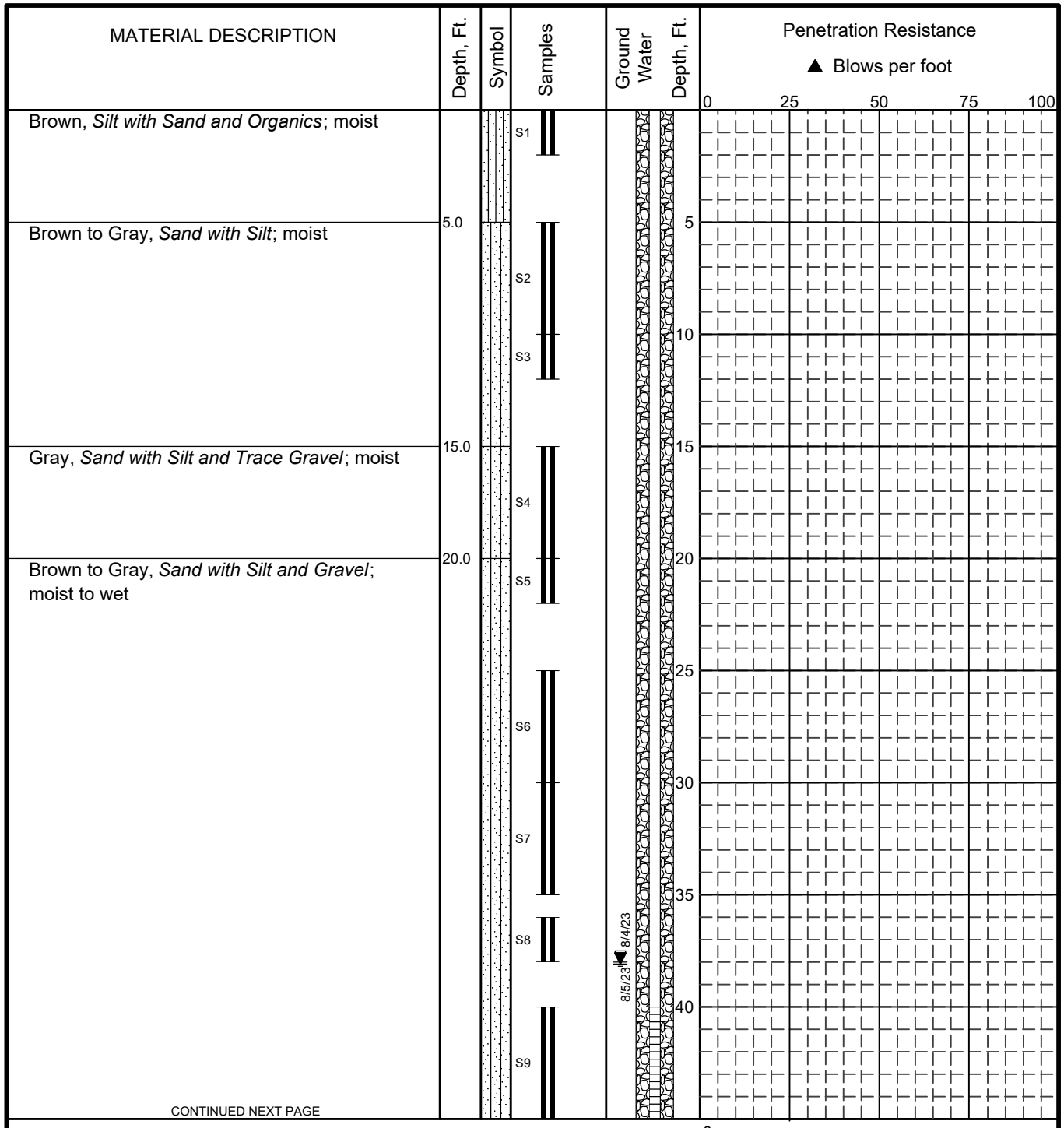
FIG. C-6
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB8

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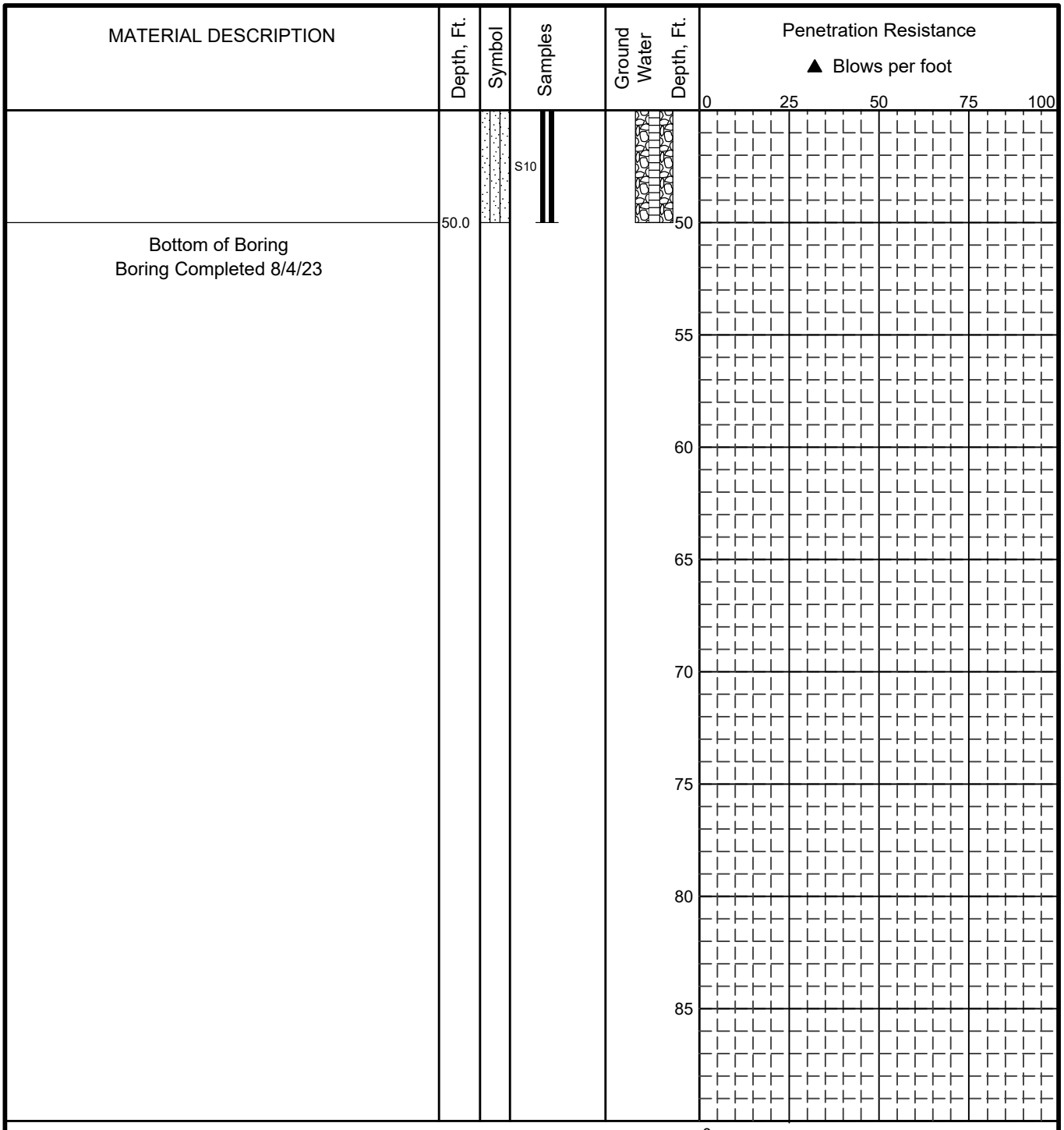
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-7
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB8

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SHANNON & WILSON, INC.
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FIG. C-7
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot 0 25 50 75 100
Brown, *Sand with Silt*; moist; Organics from 0 to 3 ft bgs			S1 S2 S3		
Brown to Gray, *Sand with varying amounts of Silt and Gravel*; moist	15.0		S4 S5 S6 S7 S8 S9		
CONTINUED NEXT PAGE					

5 10 15 20 25 30 35 40

0

LEGEND

* Sample not recovered
II Direct Push
▽ Ground Water Level At Time Of Drilling
▼ Static Water Level
■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

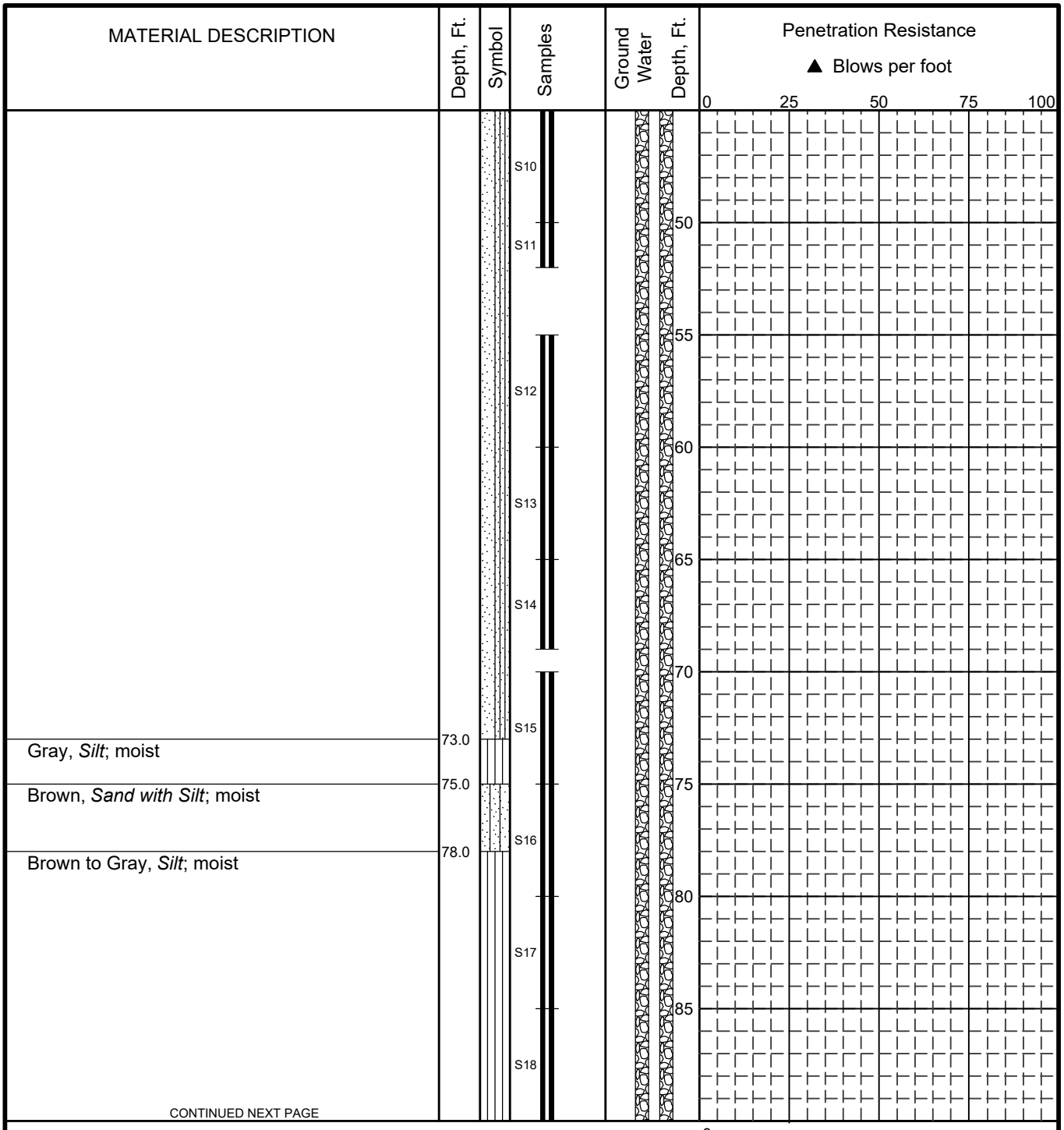
LOG OF BORING SB9

February 2024 108906-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-8
Sheet 1 of 3

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB9

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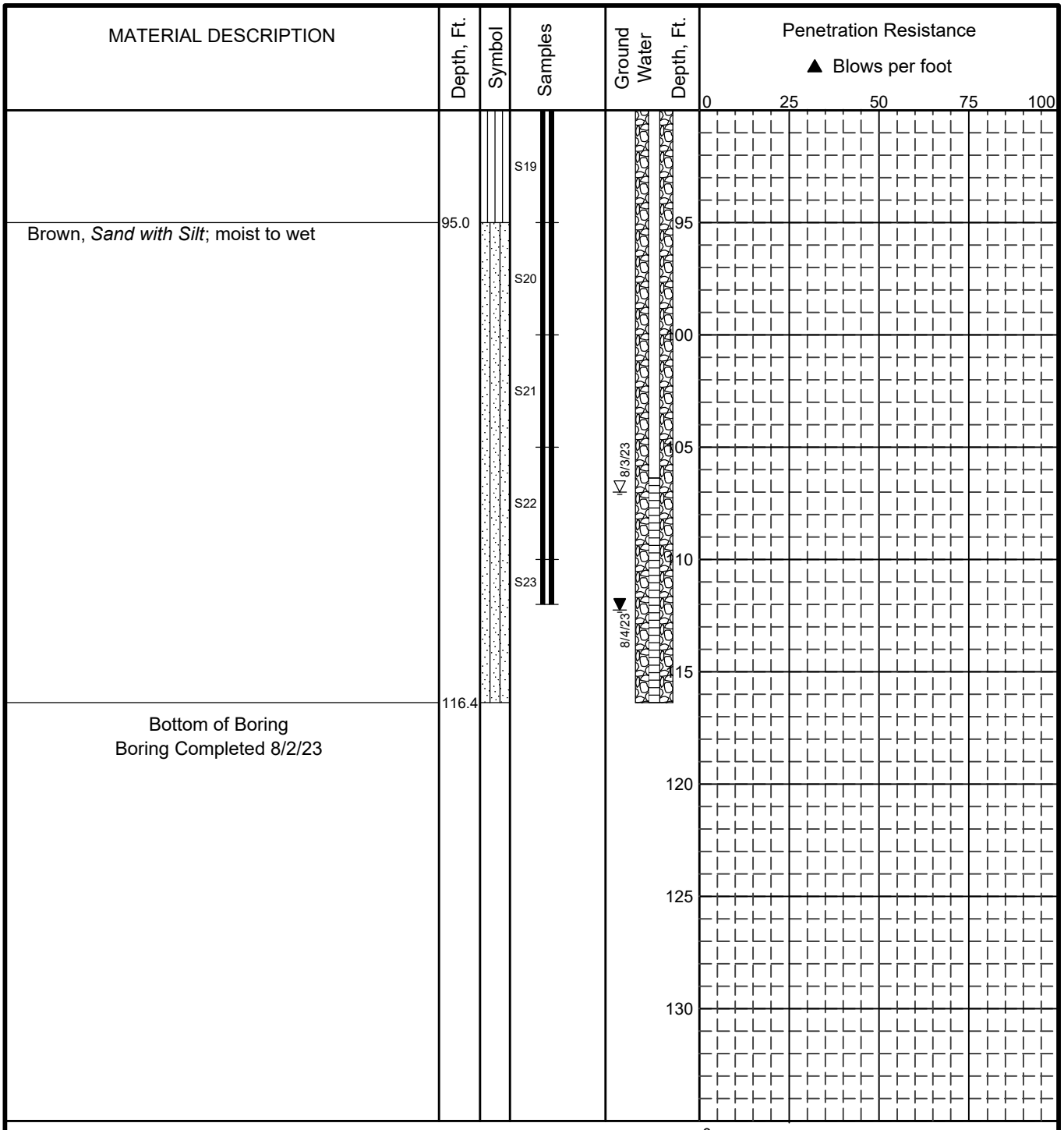
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-8
Sheet 2 of 3

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB9

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SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-8
Sheet 3 of 3

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot
Brown, *Sand with Silt and Trace Organics*; moist			S1		
Brown, *Sand with varying amounts of Silt and Gravel*; moist to wet	6.5		S2		
			S3		
Brown, *Silt*; moist to wet	26.5				

0 25 50 75 100

5 10 15 20 25 30 35 40

CONTINUED NEXT PAGE

0

LEGEND

* Sample not recovered
Direct Push

Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB11

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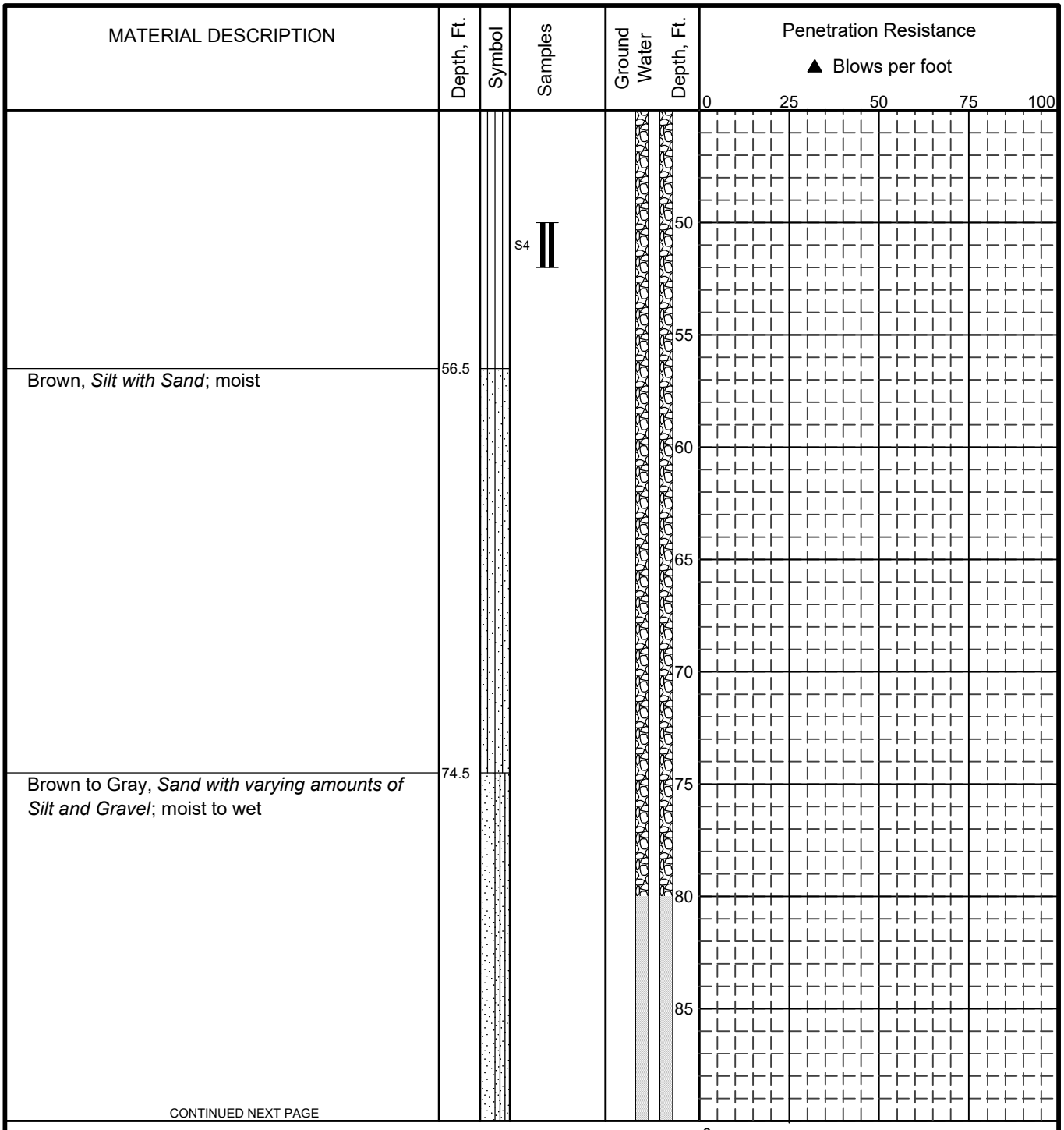
Geotechnical and Environmental Consultants

FIG. C-9
Sheet 1 of 4

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered
Direct Push

Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
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LOG OF BORING SB11

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Geotechnical and Environmental Consultants

FIG. C-9
Sheet 2 of 4

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot 0 25 50 75 100
				9/11/23	95 100 105 110 115 120 125 130
Gray, *Silt with Sand*; moist	126.5				
Gray, *Sand with Silt*; moist to wet	130.0				
CONTINUED NEXT PAGE					0

LEGEND

* Sample not recovered
Direct Push

Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
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LOG OF BORING SB11

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SHANNON & WILSON, INC.
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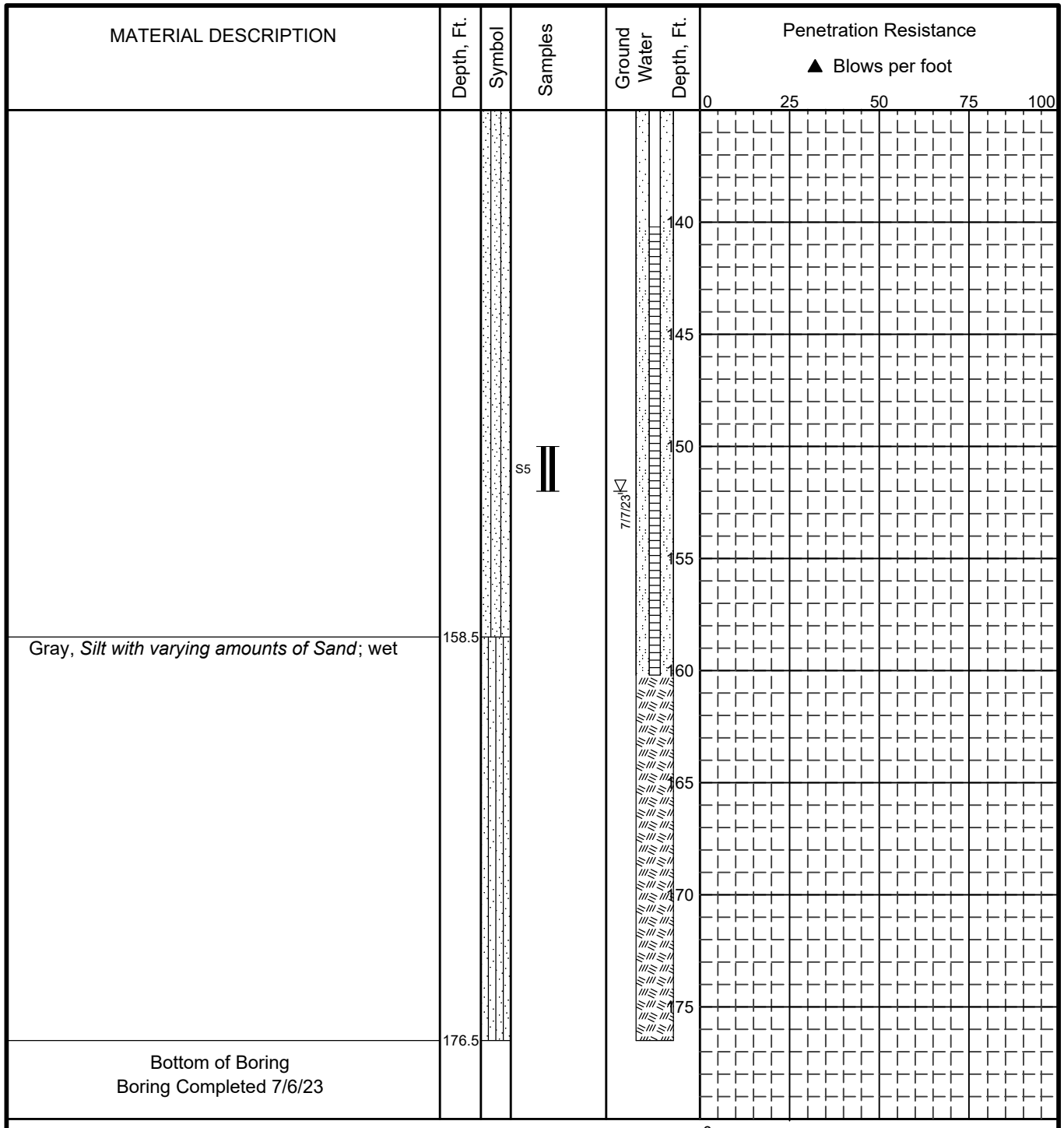
FIG. C-9
Sheet 3 of 4

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB11

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SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-9
Sheet 4 of 4

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

MATERIAL DESCRIPTION	Depth, Ft.	Symbol	Samples	Ground Water Depth, Ft.	Penetration Resistance ▲ Blows per foot
Brown, *Sand with Silt and Gravel*; moist			S1		
			S2		
Brown to Gray, *Silt*; moist	10.0		S3		
Brown to Gray, *Silt with varying amounts of Sand*; moist to wet	15.0		S4		
			S5		
			S6		
			S7		
			S8		
			S9		
CONTINUED NEXT PAGE					

0 25 50 75 100

5 10 15 20 25 30 35 40

0

LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB12

February 2024 108906-003

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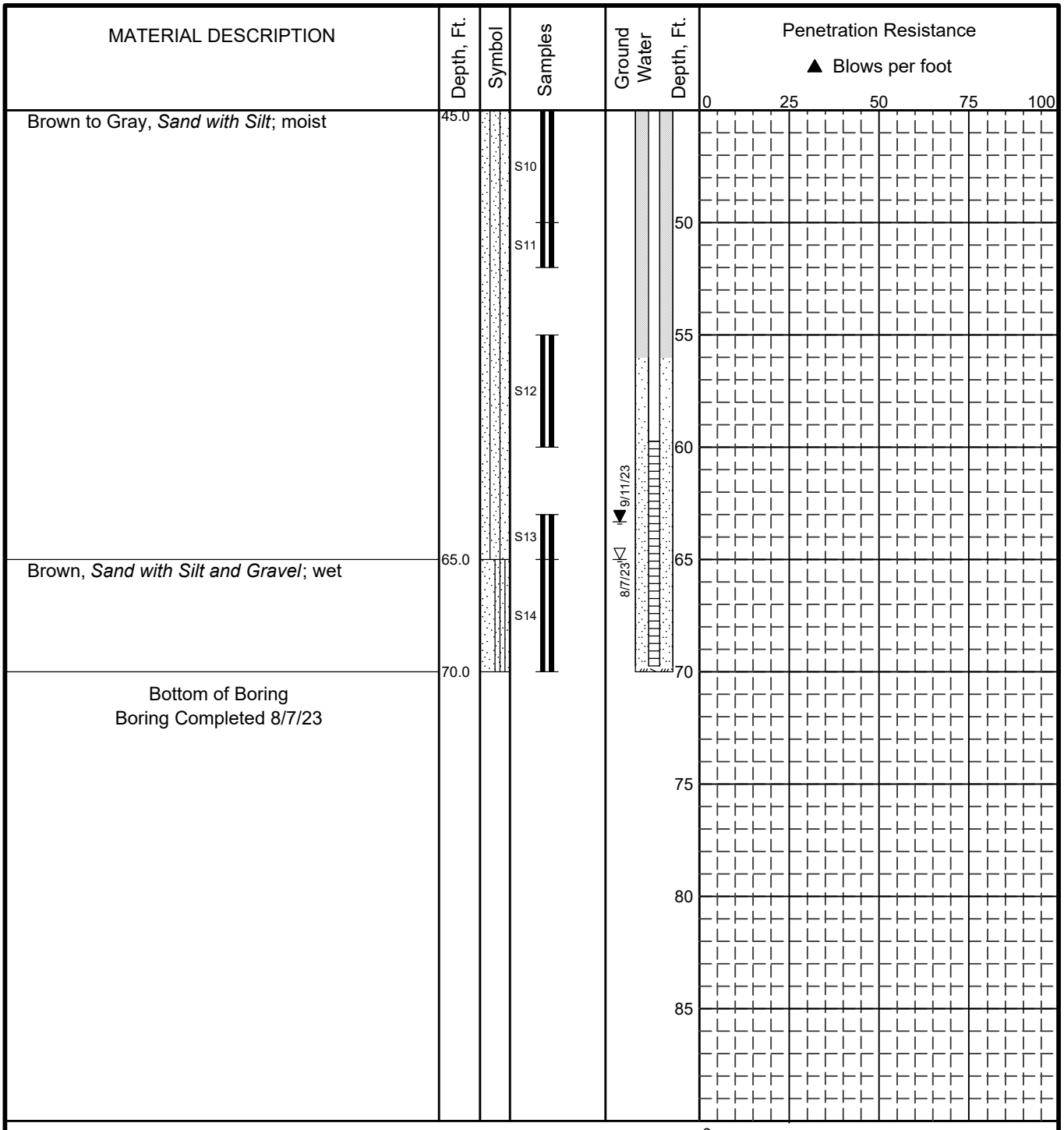
Geotechnical and Environmental Consultants

FIG. C-10
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered
Direct Push

Ground Water Level At Time Of Drilling
Static Water Level
Solid Casing, Sand Pack
Solid Casing and Annular Seal
Slotted Section, Filter Sand
Solid Casing, Cuttings Backfill

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
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LOG OF BORING SB12

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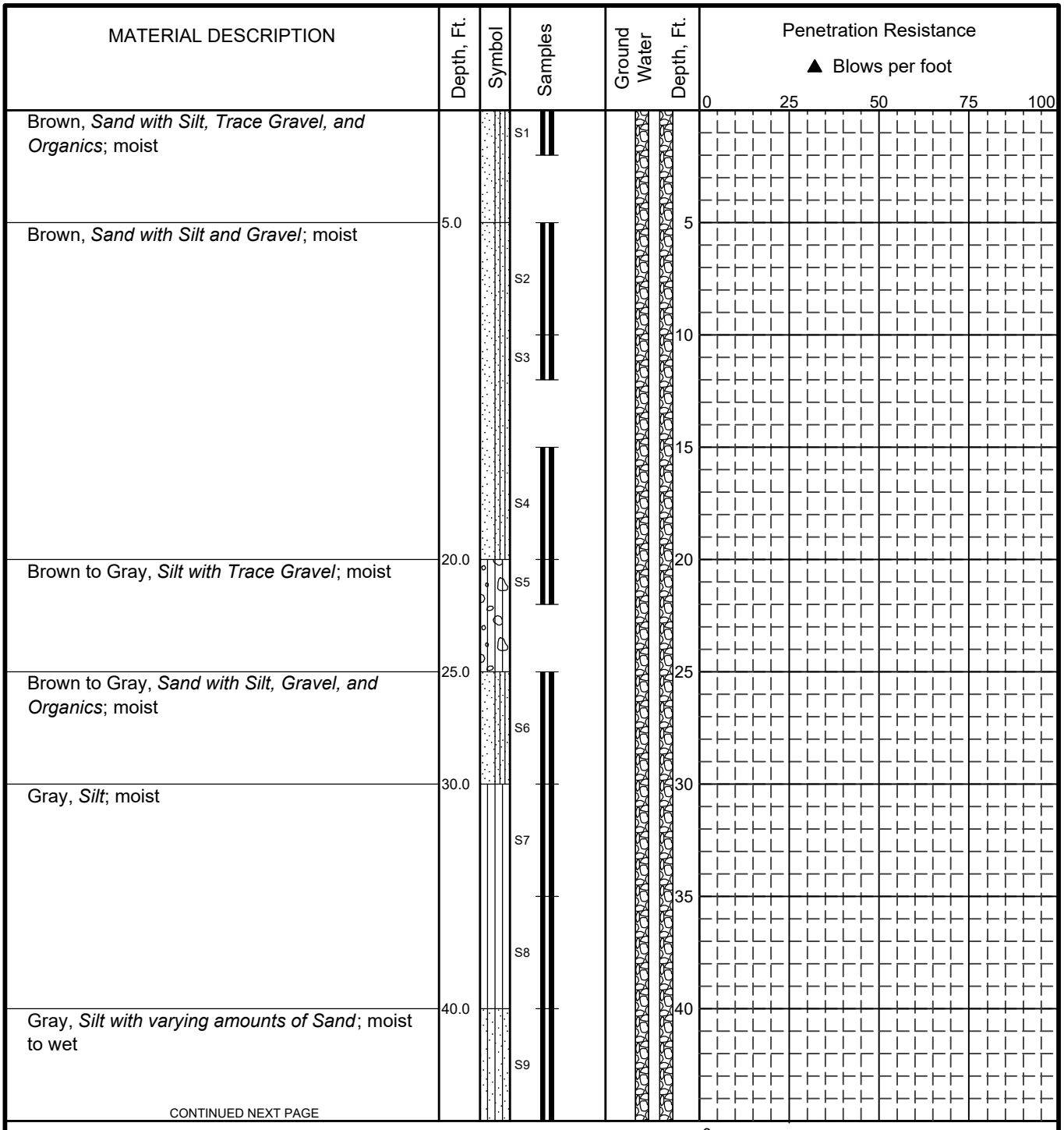
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-10
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
Anchorage, Alaska

LOG OF BORING SB13

February 2024

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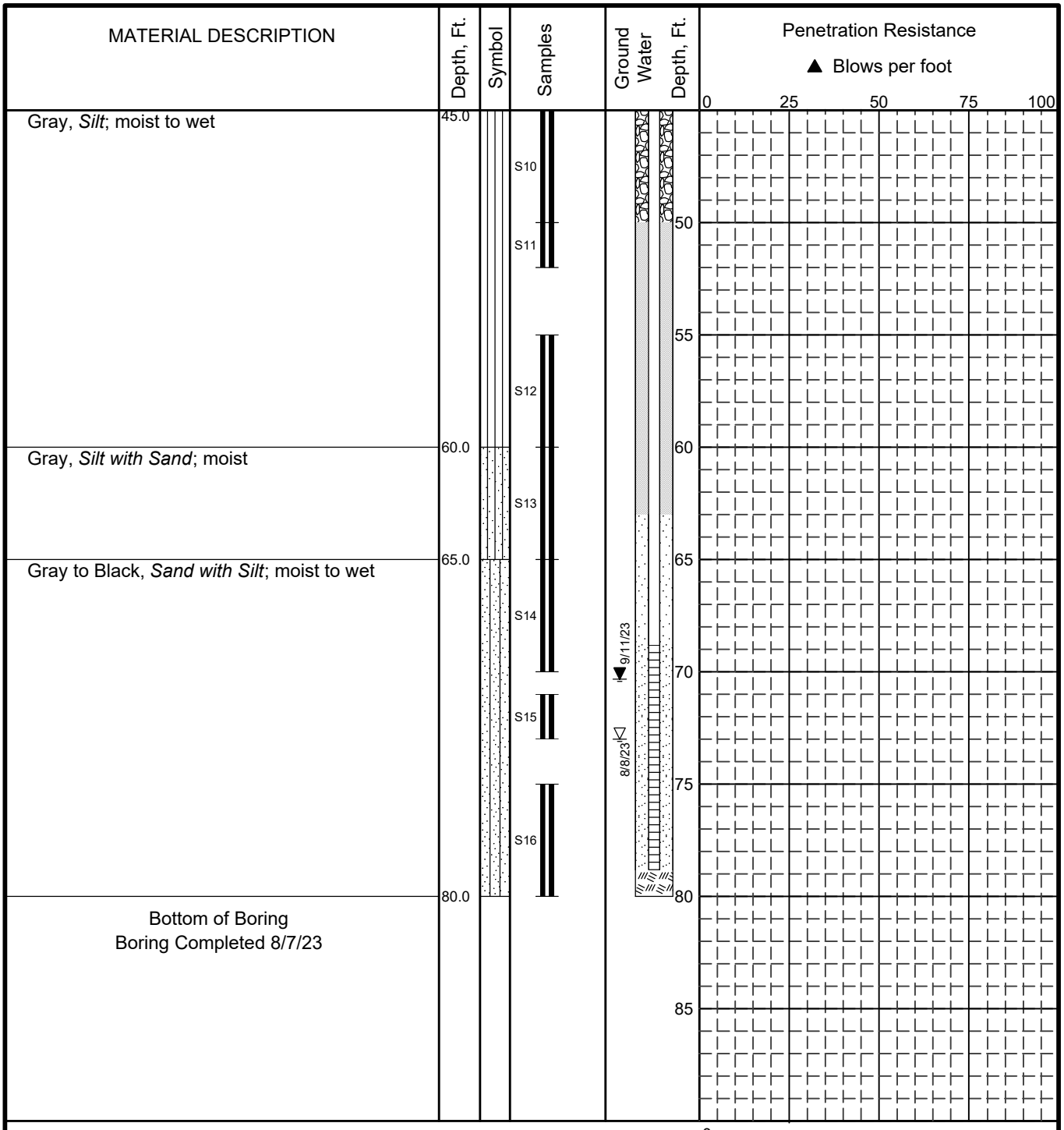
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. C-11
Sheet 1 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24



LEGEND

* Sample not recovered

Direct Push

Ground Water Level At Time Of Drilling

Static Water Level

Solid Casing, Sand Pack

Solid Casing and Annular Seal

Slotted Section, Filter Sand

Solid Casing, Cuttings Backfill

■ PID Reading (ppm)

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of subsurface materials.
3. Water level, if indicated above, is for the date specified and may vary.
4. USC letter symbol based on visual classification.

ANC Fire Training Pit
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LOG OF BORING SB13

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SHANNON & WILSON, INC.
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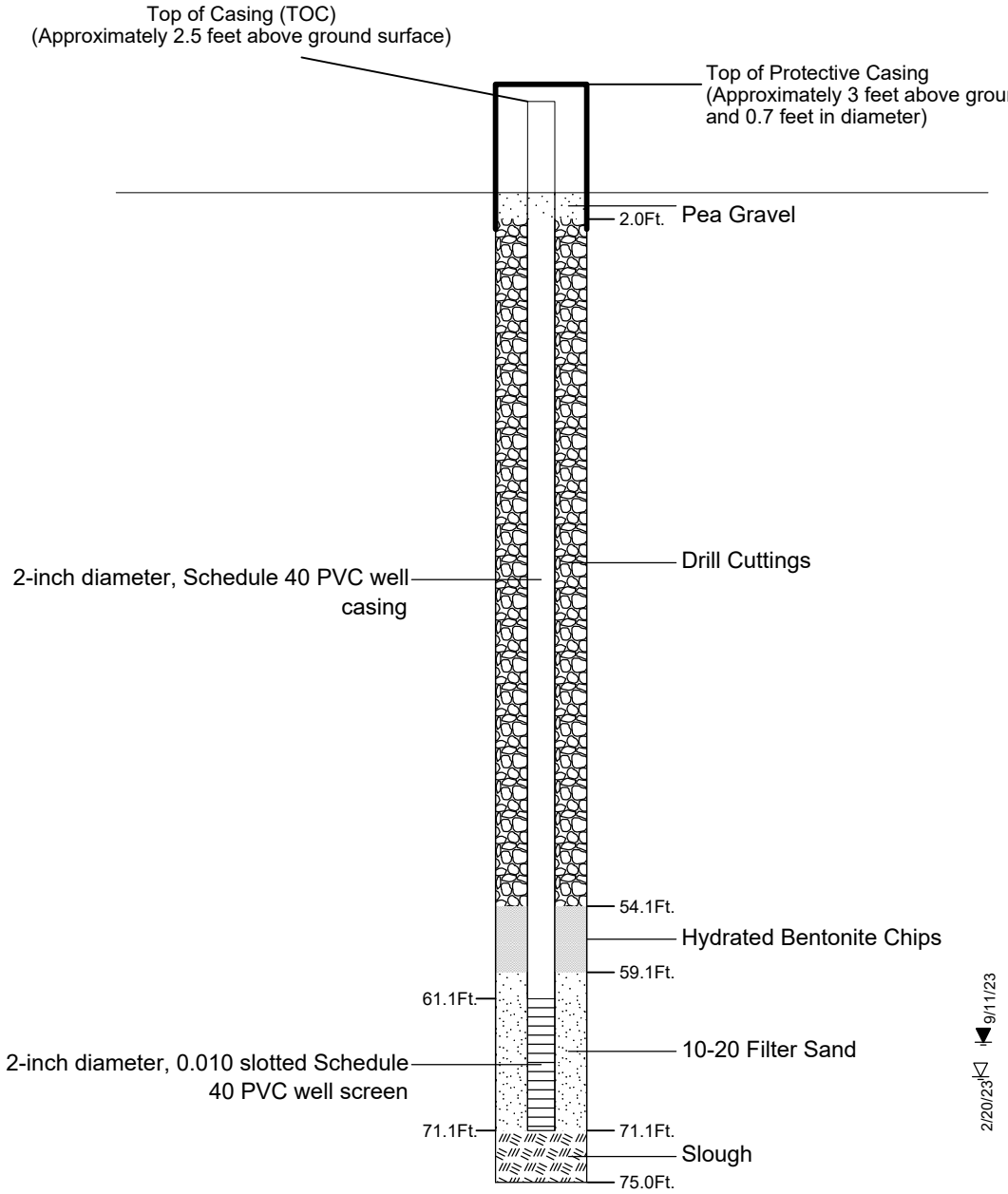
FIG. C-11
Sheet 2 of 2

ENVIRONMENTAL.LOG GINT.GPJ S&W GEO1.GDT 1/11/24

Casing Description | **Backfill Description**



LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
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MONITORING WELL B1MW
CONSTRUCTION DETAIL

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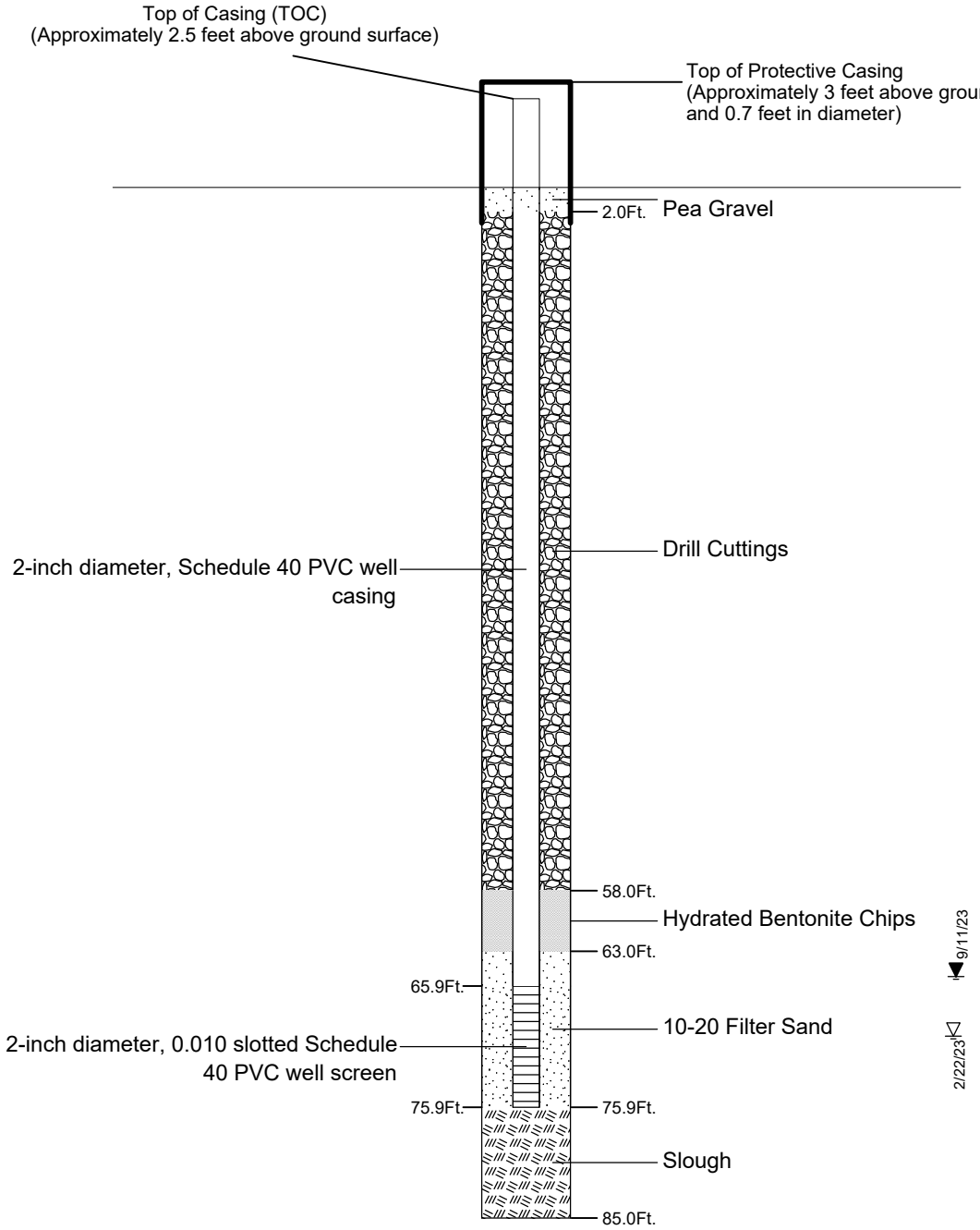
Fig. C-12

Casing Description | **Backfill Description**



LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
Anchorage, Alaska

MONITORING WELL B2MW
CONSTRUCTION DETAIL

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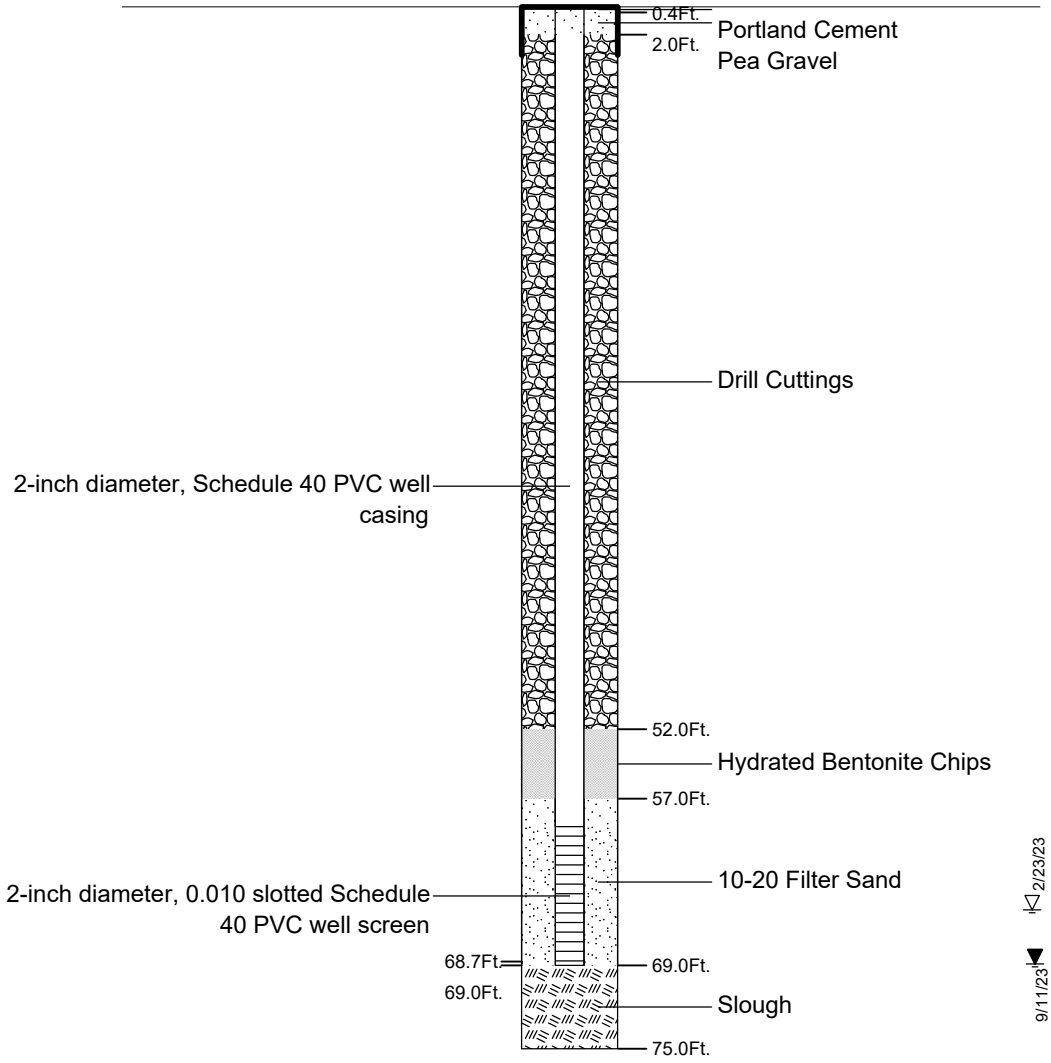
Fig. C-13

Casing Description **Backfill Description**



LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
Anchorage, Alaska

MONITORING WELL B3MW CONSTRUCTION DETAIL

February 2024 108906-003

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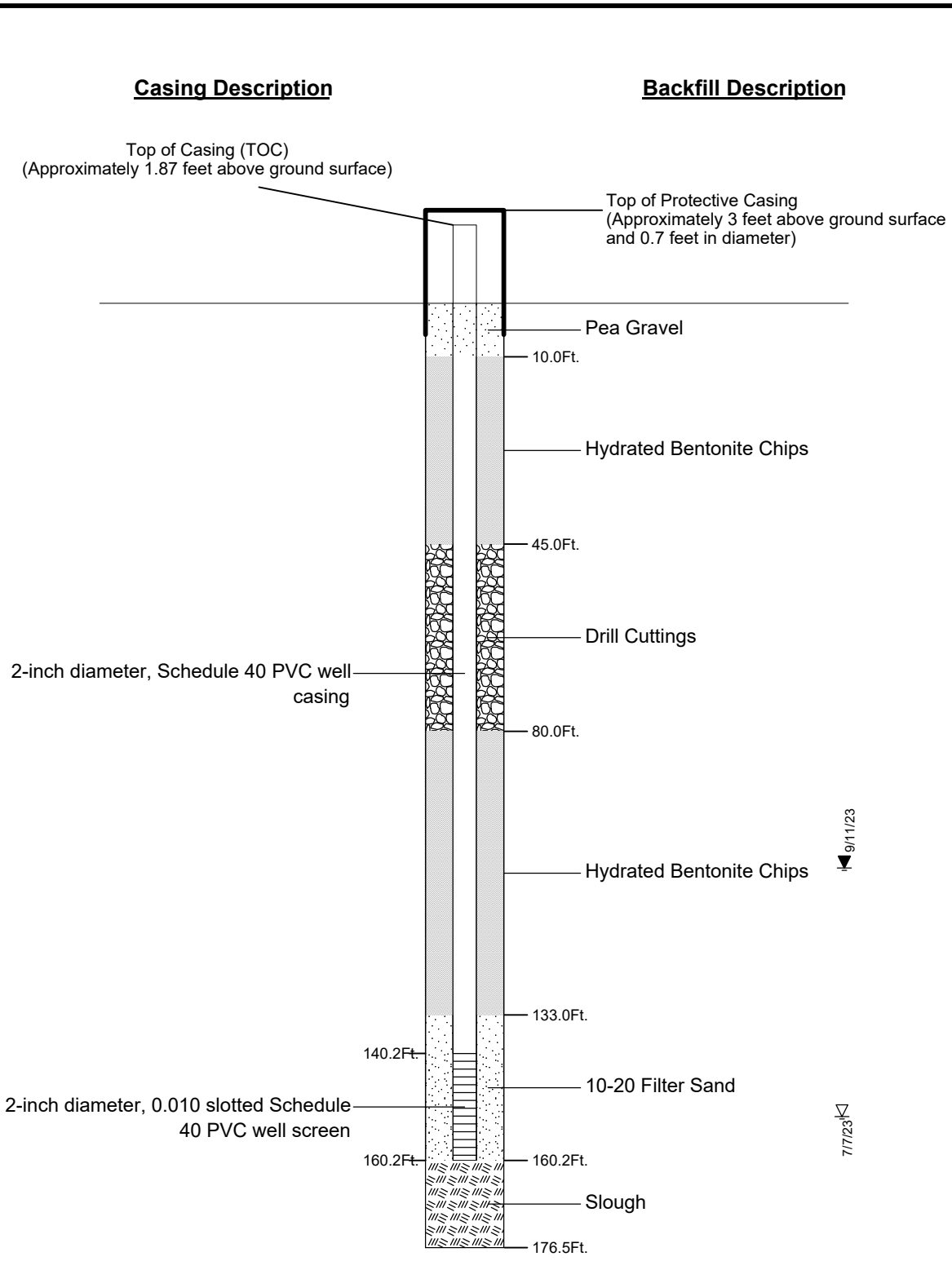
Geotechnical and Environmental Consultants

Fig. C-14



LEGEND

▽ Groundwater Level ATD

▼ Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
Anchorage, Alaska

MONITORING WELL B11MW
CONSTRUCTION DETAIL

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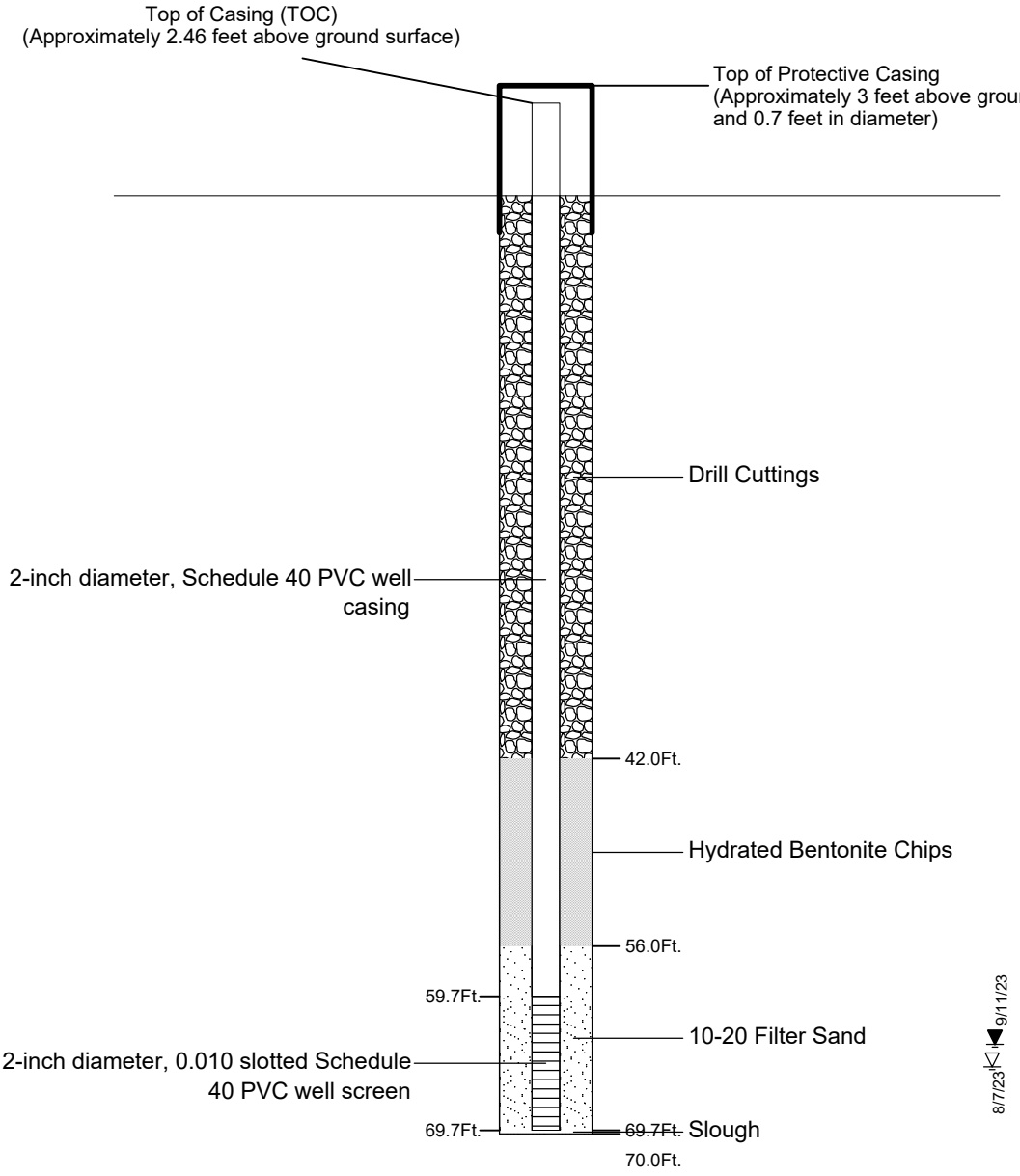
Fig. C-15

Casing Description | **Backfill Description**



LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
Anchorage, Alaska

MONITORING WELL B12MW CONSTRUCTION DETAIL

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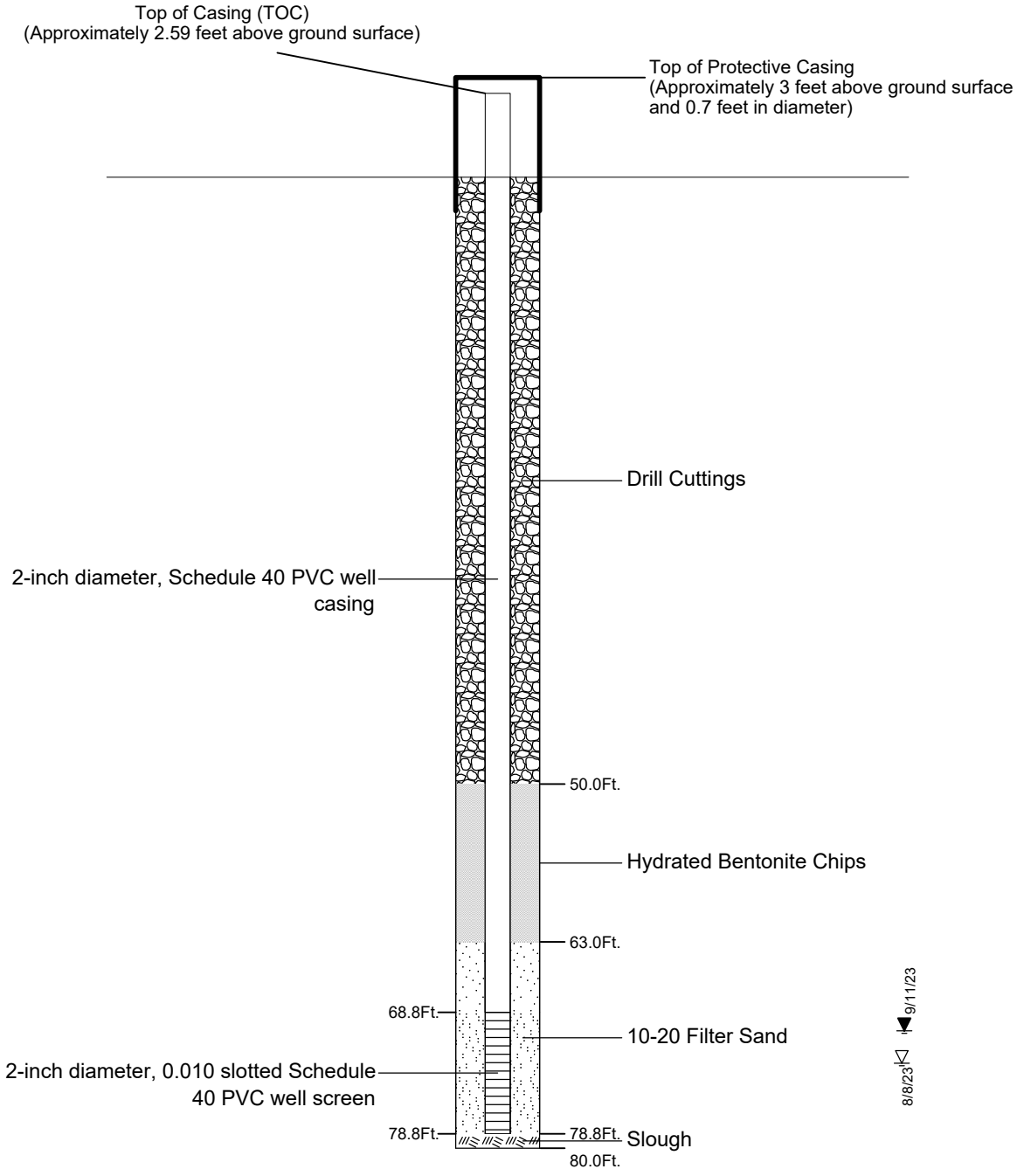
Fig. C-16

Casing Description | **Backfill Description**



LEGEND

- Groundwater Level ATD
- Static Groundwater Level

NOTE: All joints use threaded connections.

ANC Fire Training Pit
Anchorage, Alaska

MONITORING WELL B13MW
CONSTRUCTION DETAIL

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Fig. C-17

Appendix D

Professional Survey

Mammoth Consulting, L.L.C.
Land Research • Surveying • Mapping
11001 Ridgecrest Drive Anchorage, Alaska 99516
Tele. (907) 346-3767

September 8, 2023

Shannon & Wilson
5430 Fairbanks Street, Suite 3
Anchorage AK 99518

Attn: Alec Rizzo

Re: ANC Fire Training Area

Dear Alec:

Submitted herewith is the data for the survey of seven (7) monitoring wells and five (5) soil borings for the ANC Fire Training Area project at Ted Stevens Anchorage International Airport in Anchorage, Alaska. The survey was conducted August 28, 2023, and was done using Realtime Kinematic (RTK) GPS, rapid static GPS, and conventional surveying methods.

The basis of control for this survey was Alaska Department of Transportation & Public Facilities (DOT/PF) GPS Primary Control Station "ANC A." This station is also referred to as Point 701 on the Ted Stevens Anchorage International Airport Survey Control Diagram dated July 2015 and recorded as Record of Survey Plat No. 2015-80. The coordinate and elevation used this survey are as shown on Sheet 2 of the Record of Survey plat. The horizontal datum is Anchorage Bowl 2000, a local surface grid coordinate system developed by DOT, and the unit of measure is U.S. Survey Feet. The vertical datum is Mean Sea Level (MSL), Municipality of Anchorage (MOA) 1972 adjustment, and the unit of measure is U.S. Survey Feet.

Check shots were taken on four known points in order to verify the control and the RTK set-up. A shot on Secondary Airport Control Station "Fed Ex," referred to as Point 703 on the Record of Survey plat, provided both horizontal and vertical checks. Two red plastic cap monuments for which location data had been provided by Stantec Engineering for a previous project at the airport were shot for additional horizontal control checks. For an additional vertical check, a shot was taken on the vertical benchmark designated as Point 1605 on the DOT Survey Control Diagram. The coordinates and elevations measured this survey were in close agreement with the DOT/PF and Stantec coordinates and elevations. As an additional quality control measure, the corner of a concrete foundation for an electrical box near "ANC A" was shot at the beginning, middle, and end of the RTK session. The northings and eastings had a spread of just 0.01 foot, and elevations, 0.03 foot. See "List of Coordinates and Elevations" for details.

Three points (SB8, SB9, and B11MW) are located in the southeast project area, near the Anchorage Amateur Radio Club facility. We were not able to acquire fixed RTK positions in that area, so we employed rapid static methods. Approximately 20 minutes of static observation data was logged at each of the points, and Topcon Tools software used was used to process the

vectors from "ANC A" and to compute coordinates and elevations. For these rapid static points, the horizontal precisions at the 95% confidence interval are approximately 0.03 foot, and the vertical precisions, approximately 0.04 foot.

We were able to acquire fixed RTK positions for all of the project points in the vicinity of the fire training area. The RTK horizontal precisions at the 95% confidence interval are approximately 0.08 foot, and the vertical precisions, approximately 0.11 foot.

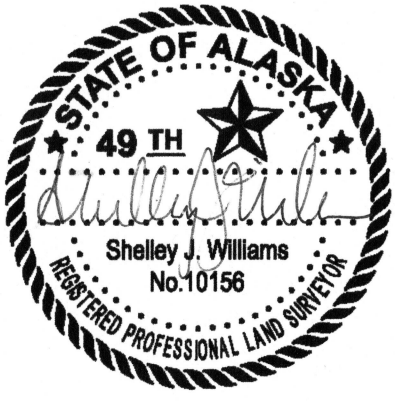
Precise (+/- 0.01 foot) elevation differences between the measuring marks of the five new wells and one pre-existing well at the fire training area were determined using a total station and trig leveling methods. A closed loop was run, and each of the wells was either a turning point of the loop or was tied to two turning points. At each set-up, measurements were made with the total station's optical scope in both direct and reverse modes and with the instrument slightly lowered and then re-leveled between the direct and reverse measurements. The differences between the direct and reverse measurements were computed for all points shot from a set-up, and these differences had a spread of no more than 0.01 foot. The mean measurements were used for final elevation computations. The error of closure was 0.015 foot, and the loop length was 2,231 feet. The allowable error for third-order accuracy, computed as 0.05 foot times the square root of the loop length expressed in miles, was 0.03 foot. The elevation survey thus meets the requirements for third-level accuracy. Ground elevations at the wells were computed from "stick-up" data.

Deliverables: Deliverables for this survey are a stamped survey report (this document), which includes a figure showing monitoring well and soil boring locations and a list of coordinates and elevations, an Excel spreadsheet file of the coordinate and elevation data, and a scanned copy of the field book. Coordinates are given both as Anchorage Bowl 2000 and NAD83(1992) geographic (lat/lon). This is all being sent via e-mail.

Thank you for the opportunity to perform this work. Please call if you have any questions or need additional information.

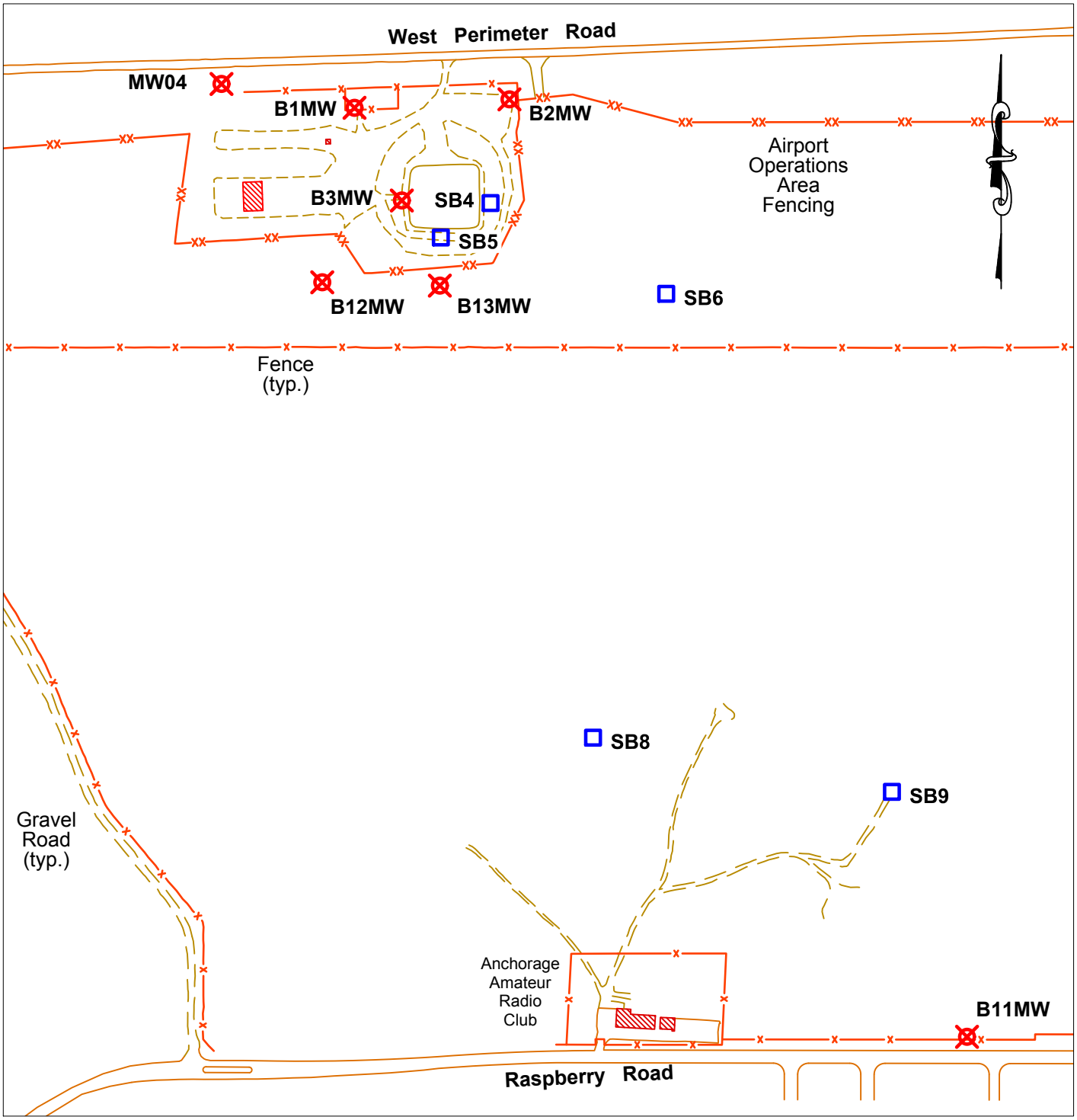
Sincerely,

Shelley Williams, P.L.S.



ATTACHMENTS

- Point Plot of Monitoring Well & Soil Boring Survey (figure)
- List of Coordinates and Elevations (table)
- Ted Stevens Anchorage International Airport Survey Control Diagram dated July 2015 and recorded as Record of Survey Plat No. 2015-80, annotated to reflect this survey



Planimetry is from DOT/PF AutoCAD file "AIRPORT.dwg."

0 400 800 ft

Point Plot of Monitoring Well & Soil Boring Survey at ANC Fire Training Area at Ted Stevens Anchorage International Airport conducted August 28, 2023

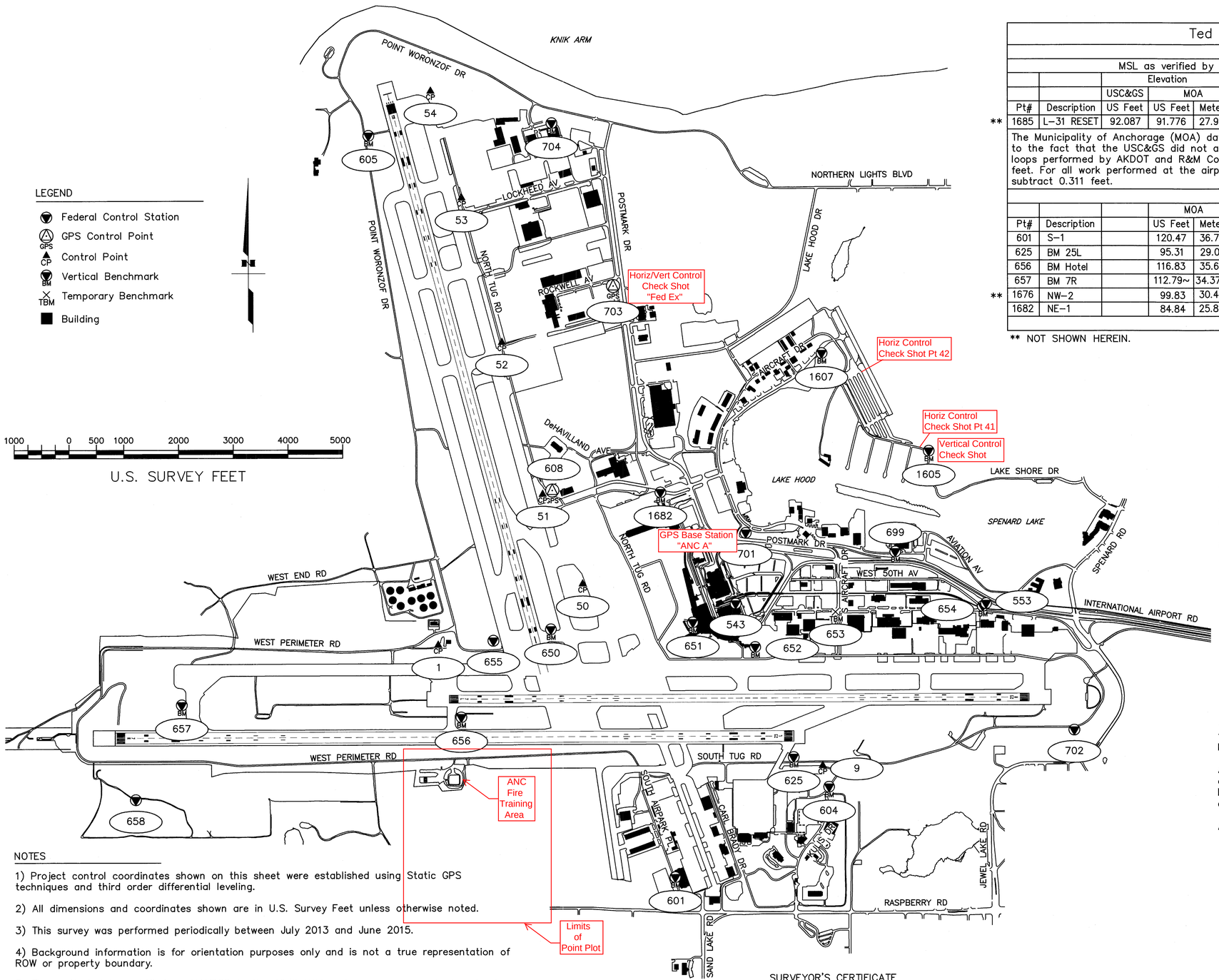
Prepared By:	**Mammoth Consulting, LLC**	Scale:	**1" = 400 ft**
For:	**Shannon & Wilson**	Date:	**Sept. 8, 2023**

List of Coordinates and Elevations for
Monitoring Well and Soil Boring Survey at ANC Fire Training Area, Anchorage Ted Stevens International Airport, AK
conducted August 28, 2023, by Mammoth Consulting

	Anchorage Bowl 2000		NAD83(1992)		MSL NGVD-29	
Description	**Northing**	**Easting**	**Latitude (N)**	**Longitude (W)**	**MOA 1972 adj.**	**Survey**
	U.S. Survey Feet		**Decimal Degrees**		**Feet**	**Method**
Survey Control						
"ANC A" aka Pt 701 = GPS Base Station, basis of coord's & elev's	325911.44	332026.00	61.17804876	-149.97763467	81.54	DOT-Survey Control Diagram, ROS 2015-80
Verify Horizontal and Vertical						
"FedEX" aka Pt 703 = GPS Base Station, basis of coord's & elev's	330425.26	329607.36	61.19039688	-149.99133273	86.44	DOT-Survey Control Diagram, ROS 2015-80
PT 703-8-28-23	330425.27	329607.37	61.19039690	-149.99133270	86.35	RTK
Verify Horizontal						
41-STANTEC	327484.69	335248.63	61.18234777	-149.95937322	76.60	STANTEC
PT 41-8-28-23	327484.69	335248.61	61.18234776	-149.95937328	76.60	RTK
42-STANTEC	328895.69	334123.45	61.18620902	-149.96574392	68.81	STANTEC
PT 42-8-28-23	328895.69	334123.42	61.18620901	-149.96574408	68.98	RTK
Verify Vertical						
1605-DOT	327411	335370	61.182146	-149.958686	75.14	ROS 2015-80
PT 1605-8-28-23	327410.96	335369.68	61.18214588	-149.95868761	75.17	RTK
Check Shots						
CONC-8-28-23-1	325888.54	331944.71	61.17798617	-149.97809524	79.98	RTK
CONC-8-28-23-2	325888.54	331944.72	61.17798617	-149.97809516	79.99	RTK
CONC-8-28-23-3	325888.53	331944.71	61.17798616	-149.97809524	80.00	RTK
CONC-8-28-23-4	325888.54	331944.71	61.17798617	-149.97809523	80.01	RTK

List of Coordinates and Elevations for
Monitoring Well and Soil Boring Survey at ANC Fire Training Area, Anchorage Ted Stevens International Airport, AK
conducted August 28, 2023, by Mammoth Consulting

	Anchorage Bowl 2000		NAD83(1992)		MSL NGVD-29	
Description	**Northing**	**Easting**	**Latitude (N)**	**Longitude (W)**	**MOA 1972 adj.**	**Survey**
	U.S. Survey Feet		**Decimal Degrees**		**Feet**	**Method**
Monitoring Wells - coordinates are at measuring marks						
B1MW (Gnd Elev = 88.2)	321646.17	326453.91	61.16638355	-150.00919680	90.64	RTK coord; leveled elev
B2MW (Gnd Elev = 93.0)	321669.32	326877.69	61.16644703	-150.00679698	95.86	RTK coord; leveled elev
B3MW (Gnd Elev = 95.6)	321392.70	326583.37	61.16569030	-150.00846348	95.42	RTK coord; leveled elev
B11MW (Gnd Elev = 128.7)	319105.78	328129.33	61.15943518	-149.99970924	130.57	Rapid Static
B12MW (Gnd Elev = 87.9)	321169.05	326365.65	61.16507846	-150.00969620	90.36	RTK coord; leveled elev
B13MW (Gnd Elev = 94.8)	321159.96	326687.27	61.16505371	-150.00787500	97.39	RTK coord; leveled elev
MW04 (Gnd Elev = 89.4)	321711.42	326090.05	61.16656188	-150.01125734	89.08	RTK coord; leveled elev
Soil Borings - elevations are at ground						
SB4	321385.77	326826.10	61.16567142	-150.00708900	93.5	RTK
SB5	321291.58	326689.99	61.16541373	-150.00785965	94.1	RTK
SB6	321137.55	327306.48	61.16499257	-150.00436863	95.9	RTK
SB8	319923.91	327106.39	61.16167290	-150.00550110	66.5	Rapid Static
SB9	319775.64	327923.94	61.16126743	-150.00087213	135.7	Rapid Static



LEGEND

- Federal Control Station
- GPS Control Point
- Control Point
- Vertical Benchmark
- Temporary Benchmark
- Building

1000 0 500 1000 2000 3000 4000 5000

U.S. SURVEY FEET

Ted Stevens International Airport Vertical Control

Primary Vertical Control

MSL as verified by a series of level loops performed by AKDOT between the following benches.

			Elevation			
			USC&GS	MOA		
	Pt#	Description	US Feet	US Feet	Meters	Location
**	1685	L-31 RESET	92.087	91.776	27.973	Fd. BC [AK DOT]: AIA Control Tower

The Municipality of Anchorage (MOA) datum and the USC&GS NGVD 1929 datum at the airport do not agree, most probably due to the fact that the USC&GS did not adjust the airport spur run after 1965. It has been determined, through differential level loops performed by AKDOT and R&M Consultants, that the average difference between the MOA and USC&GS datum is 0.311 feet. For all work performed at the airport we will use the MOA datum. To convert from USC&GS elevations to MOA elevations, subtract 0.311 feet.

Additional Vertical Control

			MOA		
	Pt#	Description	US Feet	Meters	Location
	601	S-1	120.47	36.719	Set BC/Conc [AKDOT 1998]: Set in concrete footing of pedestrian walk east of S Airpark Pl.
	625	BM 25L	95.31	29.051	Set BC/SSR* [AKDOT 2005]: Encased in well casing
	656	BM Hotel	116.83	35.610	Set BC/SSR* [AKDOT 2005]: Encased in well casing
	657	BM 7R	112.79~	34.378~	Set BC/SSR* [AKDOT 2005]: Encased in well casing ~Elevation adjusted 11/8/2010
**	1676	NW-2	99.83	30.429	Set BC/SSR* [AKDOT 1998]: In well casing 12 feet East of FAA Gate 7121 W. End Rd.
	1682	NE-1	84.84	25.858	Set BC/SSR* [AKDOT 1998]: Encased in well casing @ jog in fence West Postmark Dr./Taxiway

* Stainless Steel Rod

** NOT SHOWN HEREIN.

HORIZONTAL CONTROL STATEMENT

Coordinate System:
This project is located entirely within the Anchorage Bowl 2000 adjustment, a U.S. Survey Foot local surface grid coordinate system developed by the Alaska Department of Transportation.

Basis of Coordinates:
The Basis of Coordinates is NGS Station O'Malley, located near the intersection of the New Seward Highway and O'Malley Road. Said station has Anchorage Bowl 2000 coordinates of 303,939.2310 N, 353,362.5446 E.

Basis of Bearings:
The Basis of Bearings is a local plane bearing between NGS Station O'Malley and NGS Station Loop 2 USE RM 3 1964. NGS Station Loop 2 USE RM 3 1964 bears N 01°43'26.4"E a distance of 49,488.45 U.S. Survey Feet from NGS Station O'Malley. NGS Station Loop 2 USE RM 3 1964 has Anchorage Bowl 2000 coordinates of 353,405.2778 N, 354,851.3982 E.

Translation Parameters:
To convert the local coordinates to NAD83 (92) State Plane Foot coordinates, translate using +2,296,868.6878 N, +1,312,517.4905 E, and scale using 0.9998910192.

VERTICAL CONTROL STATEMENT

MSL 1929 NGVD, MOA 1972 adjustment, as determined by level loops performed by AK DOT.

A Leica DNA10 digital level was used for all leveling on this project. The elevations were computed in Leica Geo Office software using a length weighted adjustment. All of the level loops closed within Third-Order tolerances per Federal Geodetic Control Committee Standards and Specifications for Geodetic Control Networks.

All elevations on control points and benchmarks need to be field verified before they are used.

NOTES

1) Project control coordinates shown on this sheet were established using Static GPS techniques and third order differential leveling.

2) All dimensions and coordinates shown are in U.S. Survey Feet unless otherwise noted.

3) This survey was performed periodically between July 2013 and June 2015.

4) Background information is for orientation purposes only and is not a true representation of ROW or property boundary.

5) The vertical datum shift from NAVD88 to the 1972 MOA adjustment in the vicinity of this project is approximately -6.79 feet (as determined by 2013 AK DOT&PF levels).

6) Refer to USKH Survey Control Diagram "ANC Taxiway Y & K Safety Area Widening", AKSAS 55731, for additional control (Plat number 2014-35, Anchorage Recording District).

7) Other verifiable control points do exist nearby or on airport property.

8) Refer to NGS data sheets for PACS/SACS information in the most recent horizontal and vertical datum.

SURVEYOR'S CERTIFICATE

I hereby certify that I am properly Registered and Licensed to practice Land Surveying in the State of Alaska, and that this drawing represents a survey made by me or under my direct supervision, and that the monuments shown hereon actually exist as described, and that all dimensions and other details are correct to the extent shown hereon.

Robert M. Keiner LS-11547 Date 8/18/15

Anchorage Recording District PL 2015-80

STATE OF ALASKA 49TH Robert M. Keiner LS-11547 8-18-15 REGISTERED PROFESSIONAL LAND SURVEYOR

Record of Survey
This survey does not constitute a subdivision as determined by AS 40.15.900(5).
Anchorage Recording District
State Business No Fee

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES
TED STEVENS ANCHORAGE
INTERNATIONAL AIRPORT
Survey Control Diagram
Located within: Sections 3, 4, T12N, R4W, and Sections 21, 28, 32, 33, 34, 35, T13N, R4W, S.M.

DRAWN	MGR	DATE	July 2015	SCALE	1" = 1000'
CHECKED	RMK	DATE	July 2015	SHEET	1 OF 2

HORIZONTAL CONTROL

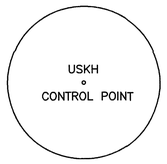
Point	Northing	Easting	Elevation	Description
1	323865.2062	326408.4664	145.01	Fd Rbr/PC[USKH]: CP 1
9	321652.1612	333434.4258	102.52	Fd Rbr/PC[USKH]: CP 9
50	324978.6186	329047.5867	88.42	Set Rbr/PC[DOT]: CP 50
51	326624.6543	328318.0134	97.95	Set Rbr/PC[DOT]: CP 51
52	329402.9828	327574.1961	109.69	Set Rbr/PC[DOT]: CP 52
53	332037.5558	326838.0495	126.09	Set Rbr/PC[DOT]: CP 53
54	333984.0855	326274.5763	155.94	Set Rbr/PC[DOT]: CP 54
543	324616.6007	331842.2044	109.06	Fd BC/Conc[DOT]: SACS "GPS Park"
553	324615.8231	336415.9023	76.44	Fd BC[NGS]: SACS "Van Dusen"
608	326694.5162	328492.4756	96.11	Set BC/Rod[DOT]: GPS Victor
655	323947.8761	327416.7002	120.83	Fd Rod/Bx[R&M]: SACS "ANC-B"
658	321037.6134	320886.6147	210.21	Fd Rod/Bx[R&M]: SACS "ANC-C"
701	325911.4427	332026.0005	81.54	Fd Rod/Bx[R&M]: PACS "ANC-A"
702	322303.3357	338029.3108	85.60	Fd Rod/Bx[R&M]: SACS "ANC-D"
703	330425.2625	329607.3625	86.44	Set BC/Rod[DOT]: GPS FedEx

VERTICAL CONTROL

Point	Northing	Easting	Elevation	Description
601	319616	330742	120.47	Fd BC/Conc[DOT]: BM S-1
604	321264	333550	94.67	Set BC/Conc[DOT]: BM FRAZIER
* 605	333168	325140	138.79	Fd BC/Rod[DOT]: N-1
625	321808	332903	95.31	Fd BC/Rod[DOT]: BM 25L
650	324150	328467	105.54	Fd BC/Rod[DOT]: BM LIMA
651	324273	331060	99.41	Set BC/Conc[DOT]: BM 651
652	323824	332199	91.98	Set BC/Conc[DOT]: BM 652
653	324461	333667	79.30	Scribed "X" on Top NW Bolt of Fire Hydrant
654	324564	336356	72.93	Fd BC/Conc[USC&GS]: E-75
656	322548	326831	116.83	Fd BC/Bx[DOT]: BM HOTEL
657	322775	321724	112.79	Fd BC/Rod[DOT]: BM 7R
699	325564	334758	84.73	Fd BC/Rod[DOT]: BM KIDS
704	333393	328485	113.69	Fd BC/Rod[DOT]: N-3
1605	327411	335370	75.14	Fd BC/Rod[DOT]: LH-1
1607	329195	333414	69.43	Fd BC/Rod[DOT]: LH-2
1682	326658	330468	84.84	Fd BC/Rod[DOT]: NE-1

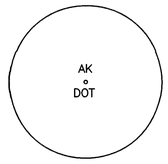
* PREVIOUS RECORD ELEVATION WAS 138.62'

1 & 9



–FOUND–
1 1/4" PLASTIC CAPS ON REBAR, FLUSH WITH GRADE, GOOD CONDITION (TYPICAL)

50–54



–SET–
1 1/4" PLASTIC CAPS ON 5/8"x24" REBAR, 0.2' BELOW GRADE, GOOD CONDITION (TYPICAL)

543

–FOUND–
3" BRASS CAP, 0.1' BELOW GRADE GOOD CONDITION

553

–FOUND–
3 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

601

–FOUND–
3 1/4" ALUMINUM CAP, FLUSH WITH CONCRETE, GOOD CONDITION

604

–SET–
3 1/4" BRASS CAP, FLUSH WITH CONCRETE, GOOD CONDITION

605

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, CASE DAMAGED

608

–FOUND–
2 1/2 BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

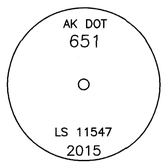
625

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A MONUMENT CASE, BENT

650

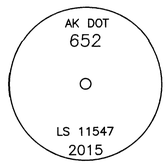
–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A MONUMENT CASE, GOOD CONDITION

651



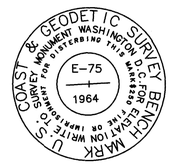
–SET–
3 1/4" BRASS CAP, FLUSH WITH CONCRETE

652



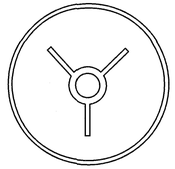
–SET–
3 1/4" BRASS CAP, FLUSH WITH CONCRETE

654



–FOUND–
3 1/2" BRASS CAP, FLUSH WITH CONCRETE HEADWALL, DINGED AND SCUFFED, GOOD CONDITION

655



–FOUND–
STAINLESS STEEL DRIVE ROD, IN A 4" PVC PIPE, GOOD CONDITION

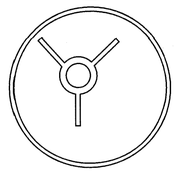
656

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

657

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

658

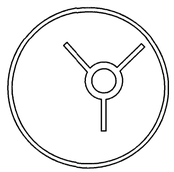


–FOUND–
STAINLESS STEEL DRIVE ROD, IN A 4" PVC PIPE, GOOD CONDITION

699

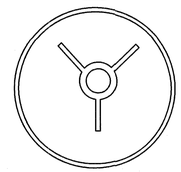
–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

701



–FOUND–
STAINLESS STEEL DRIVE ROD, IN A 4" PVC PIPE, GOOD CONDITION

702

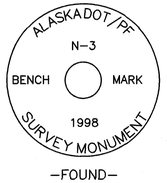


–FOUND–
STAINLESS STEEL DRIVE ROD, IN A 4" PVC PIPE, GOOD CONDITION

703

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

704



–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

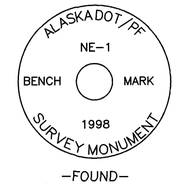
1605

–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

1607

–FOUND–
2 1/2" BRASS DISC AND STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, CAP FOUND OFF OF ROD, PIPE LEANING

1682



–FOUND–
2 1/2" BRASS DISC ON A STAINLESS STEEL DRIVE ROD, IN A 4" PIPE, GOOD CONDITION

2015-80
Plat #
Anchorage
Rec Dist
8-18-2015
Date
Time 11:12 AM

Record of Survey
This survey does not constitute a subdivision as determined by AS 40.15.900(5).
Anchorage Recording District
State Business No Fee

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT
Survey Control Diagram

Located within: Sections 3, 4, T12N, R4W, and Sections 21, 28, 32, 33, 34, 35, T13N, R4W, S.M.

DRAWN	MGR	DATE	July 2015	SCALE	N/A
CHECKED	RMK	DATE	July 2015	SHEET	2 OF 2

Appendix E

Disposal Documentation

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites and Prevention Preparedness and Response Programs

Contaminated Media Transport and Treatment or Disposal Approval Form

DEC HAZARD/SPILL ID #	NAME OF CONTAMINATED SITE OR SPILL	
414	AIA Fire Training Pit	
CONTAMINATED SITE OR SPILL LOCATION – ADDRESS OR OTHER APPROPRIATE DESCRIPTION		
South of Runway 6R, West of South Airpark, Anchorage, AK 99502		
CURRENT PHYSICAL LOCATION OF MEDIA	**SOURCE OF THE CONTAMINATION (DAY TANK, WASH BAY, FIRE TRAINING PIT, LUST, ETC.)**	
South of Runway 6R, West of South Airpark, Anchorage, AK 99502	Fire Training Activities	
CONTAMINANTS OF CONCERN	**ESTIMATED VOLUME**	**DATE(S) GENERATED**
GRO, DRO, VOCs, PAHs, and PFAS	17 55-gallon Drums	February 2023
POST TREATMENT ANALYSIS REQUIRED *(such as GRO, DRO, RRO, VOCs, metals, PFAS, and/or Chlorinated Solvents)*		
NA		
COMMENTS OR OTHER IMPORTANT INFORMATION		
Contaminated soil will be transported to the US Ecology Anchorage facility where the soil will be consolidated, then manifested to Regional Disposal Company in Roosevelt, WA.		

TREATMENT FACILITY, LANDFILL, AND/OR FINAL DESTINATION OF MEDIA	PHYSICAL ADDRESS/PHONE NUMBER
US Ecology	2020 Viking Drive, Anchorage, Alaska 99501 / (907) 258-1558
RESPONSIBLE PARTY	**ADDRESS/PHONE NUMBER**
ADEC on behalf of AIA- Bill O'Connell	555 Cordova Street, Anchorage, Alaska/ 907-269-3057
WASTE MANAGEMENT CO. / ORGANIZER	**ADDRESS/PHONE NUMBER**
US Ecology	2020 Viking Drive, Anchorage, Alaska 99501 / (907) 258-1558

***Note, disposal of polluted soil in a landfill requires prior approval from the landfill operator and ADEC Solid Waste Program.**

Alec Rizzo
Name of the Person Requesting Approval (printed)

Environmental Staff
Title/Association

Alec Rizzo Digitally signed by Alec Rizzo Date: 2023.10.05 09:10:14 -08'00'
Signature

10/5/23
Date

907-561-2120
Phone Number

----------DEC USE ONLY----------

Based on the information provided, ADEC approves transport of the above mentioned material. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight receipts of the loads transported and a post treatment analytical report, if disposed of at an approved treatment facility. The contaminated soil shall be transported as a covered load in compliance with 18 AAC 60.015.

William O'Connell
DEC Project Manager Name (printed)

EPM II
Project Manager Title

William A O'Connell Digitally signed by William A O'Connell Date: 2023.10.05 09:40:33 -08'00'
Signature

10/5/2023
Date

907-269-3057
Phone Number

NON-HAZARDOUS WASTE MANIFEST

191562-MA
Proof

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. VSQG	Manifest Document No. 191562A	2. Page 1 of 1

3. Generator's Name and Mailing Address
ADEC
555 CORDOVA ST
ANCHORAGE, AK 99501

ADEC
SOUTH OF RUNWAY 6R
ANCHORAGE, AK 99502

4. Generator's Phone (907)269-3057

IN CASE OF EMERGENCY CALL
800-899-4672

5. Transporter 1 Company Name	6. US EPA ID Number	A. State Transporter's ID
US ECOLOGY	MIK5937438 38	B. Transporter 1 Phone 734-521-8104
7. Transporter 2 Company Name	8. US EPA ID Number	C. State Transporter's ID
US Ecology	MIK5937438 38	D. Transporter 2 Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	E. State Facility's ID
US ECOLOGY ALASKA LLC 2020 VIKING DRIVE ANCHORAGE, AK 99501	AKR000004184	F. Facility's Phone 907-258-1558

11. WASTE DESCRIPTION	HM	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. Material Not Regulated by DOT		18	DM	7650	P
b.					
c.					
d.					

G. Additional Descriptions for Materials Listed Above
1) EA0512 AFFF -PFOS CONTAMINATED SOILDS (DM56)

H. Handling Codes for Wastes Listed Above
D51783

15. Special Handling Instructions and Additional Information
Shipper's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date Month	Day	Year
X Alex Ruiz	X	10	5	23

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
David McCoo		10	5	23

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
Jay Hon		11	1	23

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date Month	Day	Year
Daryl Girard		11	13	23

PRINTED ON RECYCLED PAPER USING SOYBEAN INK
PRINTED WITH SOY INK

REPUBLIC SERVICES

CERTIFICATE OF DISPOSAL/RECYCLE

GENERATOR: ADEC
SOUTH OF RUNWAY 6R
ANCHORAGE, AK 99502

DISPOSAL FACILITY: US ECOLOGY ALASKA LLC
2020 VIKING DRIVE
ANCHORAGE, AK 99501

EPA ID NUMBER: VSQG
MANIFEST/DOCUMENT #: 191562A
DATE OF DISPOSAL/RECYCLE: NOV-13-2023

LINE	WASTE DESCRIPTION	CONTAINERS	TYPE	QUANTITY	UOM
1	AFFF -PFOS CONTAMINATED SOILDS (DM55)	18	DM	7650	P

On behalf of the above listed treatment facility, a Republic Services company, I certify that to the best of my knowledge, the above described waste was managed in compliance with all applicable laws, regulations, permits, and licenses on the date listed above.

PREPARED BY: Daryl Girard

SIGNATURE: _____ **DATE:** NOV 13 2023

425 Outer Springer Loop Road - Palmer, AK 99645 - (833) 246-3367 - Fax (907) 746-3651 - Toll Free (877) 375-5040

Appendix F

Results of Analytical Testing

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907)433-3228

Report Number: **1230750**

Client Project: **ANC Fire Training Pit**

Dear Alec Rizzo,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Justin Nelson
2023.03.29
11:05:43 -08'00'

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

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Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1230750**
Project Name/Site: **ANC Fire Training Pit**
Project Contact: **Alec Rizzo**

Refer to sample receipt form for information on sample condition.

108906-SB1S2 (1230750002) PS

8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted because internal standard was added twice.

108906-SB2S1 (1230750003) PS

8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

108906-SB3S1 (1230750005) PS

8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

108906-SB3S2 (1230750006) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.

108906-SB3S12 (1230750007) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.

8270D SIM - PAH Surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

108906-SB4S1 (1230750008) PS

8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.
8082A - The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

108906-SB5S1 (1230750010) PS

8270D SIM - PAH The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

MB for HBN 1851425 [XXX/47562] (1704635) MB

AK102 - DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.

1230750001(1704925MS) (1704926) MS

8260D - MS recoveries for cis-1,3-dichloropropene and n-hexane do not meet QC criteria. See LCS for accuracy requirements.

1230750001(1704925MSD) (1704927) MSD

8260D - MSD recoveries for trichlorofluoromethane and hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.
8260D - MS/MSD RPDs for acetone and 2-butanone(MEK) do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.

Dioxins were analyzed by SGS of Wilmington, NC.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM (PAH)				
1705373	CCV for HBN 1852031 (XMS/13551	XMS13551	Benzo[k]fluoranthene	RP
SW8082A				
1704824	LCS for HBN 1851750 [XXX/47566	XGC11282	Aroclor-1260	BLC
SW8260D				
1230750006	108906-SB3S2	VMS22275	4-Isopropyltoluene	SP
1230750007	108906-SB3S12	VMS22275	4-Isopropyltoluene	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

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Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
108906-SB1S1	1230750001	02/20/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB1S2	1230750002	02/20/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB2S1	1230750003	02/21/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB2S2	1230750004	02/21/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB3S1	1230750005	02/22/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB3S2	1230750006	02/22/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB3S12	1230750007	02/23/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB4S1	1230750008	02/23/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB4S2	1230750009	02/23/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB5S1	1230750010	02/23/2023	02/24/2023	Soil/Solid (dry weight)
108906-SB5S2	1230750011	02/23/2023	02/24/2023	Soil/Solid (dry weight)
108906-FB1	1230750012	02/23/2023	02/24/2023	Solid/Soil (Wet Weight)
108906-TB1	1230750013	02/23/2023	02/24/2023	Soil/Solid (dry weight)

Method	Method Description
SW8260D	VOC 8260 (S) Field Extracted
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK103	Diesel/Residual Range Organics
AK102	Diesel/Residual Range Organics
SM21 2540G	Percent Solids SM2540G
SW8082A	SW8082 PCB's
AK101	Gasoline Range Organics (S)

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Detectable Results Summary

Client Sample ID: **108906-SB1S1**
Lab Sample ID: 1230750001

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	20.8J	mg/kg
	Residual Range Organics	111J	mg/kg
Volatile Fuels	Gasoline Range Organics	2.90J	mg/kg

Client Sample ID: **108906-SB1S2**
Lab Sample ID: 1230750002

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	55.8	mg/kg
	Residual Range Organics	760	mg/kg
Volatile Fuels	Gasoline Range Organics	4.27J	mg/kg

Client Sample ID: **108906-SB2S1**
Lab Sample ID: 1230750003

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	70.7	mg/kg
	Residual Range Organics	270	mg/kg
Volatile Fuels	Gasoline Range Organics	2.48J	mg/kg

Client Sample ID: **108906-SB2S2**
Lab Sample ID: 1230750004

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	15.4J	mg/kg
Volatile Fuels	Gasoline Range Organics	3.10J	mg/kg

Client Sample ID: **108906-SB3S1**
Lab Sample ID: 1230750005

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Benzo[b]Fluoranthene	40.3J	ug/kg
	Fluoranthene	53.1J	ug/kg
	Pyrene	50.9J	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	36.7	mg/kg
	Residual Range Organics	278	mg/kg
Volatile Fuels	Gasoline Range Organics	2.19J	mg/kg

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Detectable Results Summary

Client Sample ID: **108906-SB3S2**
Lab Sample ID: 1230750006

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	6450	ug/kg
	2-Methylnaphthalene	9670	ug/kg
	Fluorene	245	ug/kg
	Naphthalene	4030	ug/kg
	Phenanthrene	192	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	1420	mg/kg
	Residual Range Organics	161	mg/kg
Volatile Fuels	Gasoline Range Organics	531	mg/kg
Volatile GC/MS	1,2,4-Trimethylbenzene	14500	ug/kg
	1,3,5-Trimethylbenzene	5910	ug/kg
	4-Isopropyltoluene	1180	ug/kg
	Benzene	72.1J	ug/kg
	Ethylbenzene	3220	ug/kg
	Isopropylbenzene (Cumene)	1300	ug/kg
	Naphthalene	7940	ug/kg
	n-Propylbenzene	1970	ug/kg
	o-Xylene	5440	ug/kg
	P & M -Xylene	4780	ug/kg
	sec-Butylbenzene	1590	ug/kg
	tert-Butylbenzene	129J	ug/kg
	Tetrachloroethene	49.1J	ug/kg
	Xylenes (total)	10200	ug/kg

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Detectable Results Summary

Client Sample ID: **108906-SB3S12**
Lab Sample ID: 1230750007

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	6220	ug/kg
	2-Methylnaphthalene	9440	ug/kg
	Fluorene	232	ug/kg
	Naphthalene	4040	ug/kg
	Phenanthrene	184	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	886	mg/kg
	Residual Range Organics	83.6J	mg/kg
Volatile Fuels	Gasoline Range Organics	274	mg/kg
Volatile GC/MS	1,2,4-Trimethylbenzene	8670	ug/kg
	1,3,5-Trimethylbenzene	3570	ug/kg
	4-Isopropyltoluene	674	ug/kg
	Benzene	85.1J	ug/kg
	Ethylbenzene	1940	ug/kg
	Isopropylbenzene (Cumene)	810	ug/kg
	Naphthalene	5580	ug/kg
	n-Propylbenzene	1330	ug/kg
	o-Xylene	2940	ug/kg
	P & M -Xylene	3380	ug/kg
	sec-Butylbenzene	996	ug/kg
	tert-Butylbenzene	80.0J	ug/kg
	Tetrachloroethene	32.3J	ug/kg
	Xylenes (total)	6320	ug/kg

Client Sample ID: **108906-SB4S1**
Lab Sample ID: 1230750008

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Chrysene	92.6J	ug/kg
	Pyrene	41.6J	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	232	mg/kg
	Residual Range Organics	3600	mg/kg
Volatile Fuels	Gasoline Range Organics	2.37J	mg/kg

Client Sample ID: **108906-SB4S2**
Lab Sample ID: 1230750009

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Benzo(a)Anthracene	8.62J	ug/kg
	Benzo[a]pyrene	10.8J	ug/kg
	Benzo[b]Fluoranthene	13.1J	ug/kg
	Chrysene	10.8J	ug/kg
	Fluoranthene	21.3J	ug/kg
	Phenanthrene	14.7J	ug/kg
	Pyrene	20.9J	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	18.1J	mg/kg
Volatile Fuels	Gasoline Range Organics	2.85J	mg/kg

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Detectable Results Summary

Client Sample ID: **108906-SB5S1**
Lab Sample ID: 1230750010

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	103	mg/kg
	Residual Range Organics	701	mg/kg
Volatile Fuels	Gasoline Range Organics	2.00J	mg/kg

Client Sample ID: **108906-SB5S2**
Lab Sample ID: 1230750011

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	8.07J	ug/kg
	Naphthalene	8.04J	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	15.7J	mg/kg
Volatile Fuels	Gasoline Range Organics	2.28J	mg/kg
Volatile GC/MS	Trichloroethene	5.73J	ug/kg

Client Sample ID: **108906-FB1**
Lab Sample ID: 1230750012

	Parameter	Result	Units
Volatile Fuels	Gasoline Range Organics	1.64J	mg/kg

Client Sample ID: **108906-TB1**
Lab Sample ID: 1230750013

	Parameter	Result	Units
Volatile Fuels	Gasoline Range Organics	1.87J	mg/kg

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Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Aroclor-1221	55.5	U	111	27.8	55.5	ug/kg	1		03/21/23 17:55
Aroclor-1232	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Aroclor-1242	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Aroclor-1248	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Aroclor-1254	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Aroclor-1260	27.8	U	55.5	13.9	27.8	ug/kg	1		03/21/23 17:55
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	1		03/21/23 17:55

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 17:55
Container ID: 1230750001-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.847 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
2-Methylnaphthalene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Acenaphthene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Acenaphthylene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Anthracene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Benzo(a)Anthracene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Benzo[a]pyrene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Benzo[b]Fluoranthene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Benzo[g,h,i]perylene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Benzo[k]fluoranthene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Chrysene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Dibenzo[a,h]anthracene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Fluoranthene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Fluorene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Indeno[1,2,3-c,d] pyrene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Naphthalene	11.2	U	22.3	5.58	11.2	ug/kg	1		03/05/23 18:21
Phenanthrene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Pyrene	13.9	U	27.9	6.97	13.9	ug/kg	1		03/05/23 18:21
Surrogates									
2-Methylnaphthalene-d10 (surr)	83.5		58-103			%	1		03/05/23 18:21
Fluoranthene-d10 (surr)	82.4		54-113			%	1		03/05/23 18:21

Batch Information

Analytical Batch: XMS13550
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/05/23 18:21
Container ID: 1230750001-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.745 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	20.8	J	22.4	10.1	11.2	mg/kg	1		03/01/23 16:38
Surrogates									
5a Androstane (surr)	84.5		50-150			%	1		03/01/23 16:38

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/01/23 16:38
Container ID: 1230750001-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.27 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	111	J	112	48.1	56.0	mg/kg	1		03/01/23 16:38
Surrogates									
n-Triacontane-d62 (surr)	87.8		50-150			%	1		03/01/23 16:38

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/01/23 16:38
Container ID: 1230750001-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.27 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.90	J	4.52	1.36	2.26	mg/kg	1		02/27/23 19:56
Surrogates									
4-Bromofluorobenzene (surr)	74.9		50-150			%	1		02/27/23 19:56

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 19:56
Container ID: 1230750001-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/20/23 10:30
Prep Initial Wt./Vol.: 36.339 g
Prep Extract Vol: 29.1267 mL

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	18.1	U	36.2	11.2	18.1	ug/kg	1		02/27/23 14:56
1,1,1-Trichloroethane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,1,2,2-Tetrachloroethane	1.81	U	3.62	1.12	1.81	ug/kg	1		02/27/23 14:56
1,1,2-Trichloroethane	0.905	U	1.81	0.904	0.905	ug/kg	1		02/27/23 14:56
1,1-Dichloroethane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,1-Dichloroethene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,1-Dichloropropene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,2,3-Trichlorobenzene	90.5	U	181	54.3	90.5	ug/kg	1		02/27/23 14:56
1,2,3-Trichloropropane	1.81	U	3.62	1.12	1.81	ug/kg	1		02/27/23 14:56
1,2,4-Trichlorobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,2,4-Trimethylbenzene	90.5	U	181	54.3	90.5	ug/kg	1		02/27/23 14:56
1,2-Dibromo-3-chloropropane	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
1,2-Dibromoethane	1.36	U	2.71	1.36	1.36	ug/kg	1		02/27/23 14:56
1,2-Dichlorobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,2-Dichloroethane	1.81	U	3.62	1.27	1.81	ug/kg	1		02/27/23 14:56
1,2-Dichloropropane	9.05	U	18.1	9.04	9.05	ug/kg	1		02/27/23 14:56
1,3,5-Trimethylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,3-Dichlorobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
1,3-Dichloropropane	9.05	U	18.1	5.61	9.05	ug/kg	1		02/27/23 14:56
1,4-Dichlorobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
2,2-Dichloropropane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
2-Butanone (MEK)	226	U	452	141	226	ug/kg	1		02/27/23 14:56
2-Chlorotoluene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
2-Hexanone	109	U	217	109	109	ug/kg	1		02/27/23 14:56
4-Chlorotoluene	18.1	U	36.2	18.1	18.1	ug/kg	1		02/27/23 14:56
4-Isopropyltoluene	72.5	U	145	72.3	72.5	ug/kg	1		02/27/23 14:56
4-Methyl-2-pentanone (MIBK)	226	U	452	141	226	ug/kg	1		02/27/23 14:56
Acetone	226	U	452	199	226	ug/kg	1		02/27/23 14:56
Benzene	11.3	U	22.6	7.05	11.3	ug/kg	1		02/27/23 14:56
Bromobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Bromochloromethane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Bromodichloromethane	1.81	U	3.62	1.12	1.81	ug/kg	1		02/27/23 14:56
Bromoform	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Bromomethane	18.1	U	36.2	14.5	18.1	ug/kg	1		02/27/23 14:56
Carbon disulfide	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
Carbon tetrachloride	11.3	U	22.6	7.05	11.3	ug/kg	1		02/27/23 14:56
Chlorobenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	181	U	362	112	181	ug/kg	1		02/27/23 14:56
Chloroform	5.45	U	10.9	5.43	5.45	ug/kg	1		02/27/23 14:56
Chloromethane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
cis-1,2-Dichloroethene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
cis-1,3-Dichloropropene	11.3	U	22.6	7.05	11.3	ug/kg	1		02/27/23 14:56
Dibromochloromethane	4.52	U	9.04	2.71	4.52	ug/kg	1		02/27/23 14:56
Dibromomethane	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Dichlorodifluoromethane	90.5	U	181	54.3	90.5	ug/kg	1		02/27/23 14:56
Ethylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Freon-113	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
Hexachlorobutadiene	18.1	U	36.2	11.2	18.1	ug/kg	1		02/27/23 14:56
Isopropylbenzene (Cumene)	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Methylene chloride	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
Methyl-t-butyl ether	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
Naphthalene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
n-Butylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
n-Propylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
o-Xylene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
P & M -Xylene	45.2	U	90.4	27.1	45.2	ug/kg	1		02/27/23 14:56
sec-Butylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Styrene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
tert-Butylbenzene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
Tetrachloroethene	11.3	U	22.6	7.05	11.3	ug/kg	1		02/27/23 14:56
Toluene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
trans-1,2-Dichloroethene	22.6	U	45.2	14.1	22.6	ug/kg	1		02/27/23 14:56
trans-1,3-Dichloropropene	11.3	U	22.6	7.05	11.3	ug/kg	1		02/27/23 14:56
Trichloroethene	9.05	U	18.1	5.79	9.05	ug/kg	1		02/27/23 14:56
Trichlorofluoromethane	45.2	U	90.4	27.1	45.2	ug/kg	1		02/27/23 14:56
Vinyl acetate	90.5	U	181	56.1	90.5	ug/kg	1		02/27/23 14:56
Vinyl chloride	0.725	U	1.45	0.452	0.725	ug/kg	1		02/27/23 14:56
Xylenes (total)	68.0	U	136	41.2	68.0	ug/kg	1		02/27/23 14:56
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 14:56
4-Bromofluorobenzene (surr)	78.7		55-151			%	1		02/27/23 14:56
Toluene-d8 (surr)	99.6		85-116			%	1		02/27/23 14:56

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750001
Lab Project ID: 1230750

Collection Date: 02/20/23 10:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 14:56
Container ID: 1230750001-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/20/23 10:30
Prep Initial Wt./Vol.: 36.339 g
Prep Extract Vol: 29.1267 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Aroclor-1221	69.0	U	138	34.6	69.0	ug/kg	1		03/21/23 18:06
Aroclor-1232	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Aroclor-1242	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Aroclor-1248	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Aroclor-1254	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Aroclor-1260	34.5	U	69.1	17.3	34.5	ug/kg	1		03/21/23 18:06
Surrogates									
Decachlorobiphenyl (surr)	72.5		60-125			%	1		03/21/23 18:06

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 18:06
Container ID: 1230750002-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.703 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
2-Methylnaphthalene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Acenaphthene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Acenaphthylene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Anthracene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Benzo(a)Anthracene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Benzo[a]pyrene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Benzo[b]Fluoranthene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Benzo[g,h,i]perylene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Benzo[k]fluoranthene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Chrysene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Dibenzo[a,h]anthracene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Fluoranthene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Fluorene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Indeno[1,2,3-c,d] pyrene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Naphthalene	27.6	U	55.2	13.8	27.6	ug/kg	2		03/06/23 18:54
Phenanthrene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Pyrene	34.5	U	69.0	17.2	34.5	ug/kg	2		03/06/23 18:54
Surrogates									
2-Methylnaphthalene-d10 (surr)	76.5		58-103			%	2		03/06/23 18:54
Fluoranthene-d10 (surr)	73		54-113			%	2		03/06/23 18:54

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 18:54
Container ID: 1230750002-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.75 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	55.8		27.8	12.5	13.9	mg/kg	1		03/01/23 16:48
Surrogates									
5a Androstane (surr)	83		50-150			%	1		03/01/23 16:48

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/01/23 16:48
Container ID: 1230750002-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.113 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	760		139	59.7	69.5	mg/kg	1		03/01/23 16:48
Surrogates									
n-Triacontane-d62 (surr)	86.4		50-150			%	1		03/01/23 16:48

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/01/23 16:48
Container ID: 1230750002-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.113 g
Prep Extract Vol: 5 mL

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	4.27	J	6.66	2.00	3.33	mg/kg	1		02/27/23 20:15
Surrogates									
4-Bromofluorobenzene (surr)	75.2		50-150			%	1		02/27/23 20:15

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 20:15
Container ID: 1230750002-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/20/23 10:50
Prep Initial Wt./Vol.: 37.187 g
Prep Extract Vol: 35.5211 mL

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	26.6	U	53.3	16.5	26.6	ug/kg	1		02/27/23 17:52
1,1,1-Trichloroethane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,1,2,2-Tetrachloroethane	2.67	U	5.33	1.65	2.67	ug/kg	1		02/27/23 17:52
1,1,2-Trichloroethane	1.33	U	2.66	1.33	1.33	ug/kg	1		02/27/23 17:52
1,1-Dichloroethane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,1-Dichloroethene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,1-Dichloropropene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,2,3-Trichlorobenzene	133	U	266	79.9	133	ug/kg	1		02/27/23 17:52
1,2,3-Trichloropropane	2.67	U	5.33	1.65	2.67	ug/kg	1		02/27/23 17:52
1,2,4-Trichlorobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,2,4-Trimethylbenzene	133	U	266	79.9	133	ug/kg	1		02/27/23 17:52
1,2-Dibromo-3-chloropropane	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
1,2-Dibromoethane	2.00	U	4.00	2.00	2.00	ug/kg	1		02/27/23 17:52
1,2-Dichlorobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,2-Dichloroethane	2.67	U	5.33	1.86	2.67	ug/kg	1		02/27/23 17:52
1,2-Dichloropropane	13.3	U	26.6	13.3	13.3	ug/kg	1		02/27/23 17:52
1,3,5-Trimethylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,3-Dichlorobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
1,3-Dichloropropane	13.3	U	26.6	8.26	13.3	ug/kg	1		02/27/23 17:52
1,4-Dichlorobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
2,2-Dichloropropane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
2-Butanone (MEK)	333	U	666	208	333	ug/kg	1		02/27/23 17:52
2-Chlorotoluene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
2-Hexanone	160	U	320	160	160	ug/kg	1		02/27/23 17:52
4-Chlorotoluene	26.6	U	53.3	26.6	26.6	ug/kg	1		02/27/23 17:52
4-Isopropyltoluene	107	U	213	107	107	ug/kg	1		02/27/23 17:52
4-Methyl-2-pentanone (MIBK)	333	U	666	208	333	ug/kg	1		02/27/23 17:52
Acetone	333	U	666	293	333	ug/kg	1		02/27/23 17:52
Benzene	16.6	U	33.3	10.4	16.6	ug/kg	1		02/27/23 17:52
Bromobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Bromochloromethane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Bromodichloromethane	2.67	U	5.33	1.65	2.67	ug/kg	1		02/27/23 17:52
Bromoform	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Bromomethane	26.6	U	53.3	21.3	26.6	ug/kg	1		02/27/23 17:52
Carbon disulfide	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
Carbon tetrachloride	16.6	U	33.3	10.4	16.6	ug/kg	1		02/27/23 17:52
Chlorobenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	267	U	533	165	267	ug/kg	1		02/27/23 17:52
Chloroform	8.00	U	16.0	7.99	8.00	ug/kg	1		02/27/23 17:52
Chloromethane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
cis-1,2-Dichloroethene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
cis-1,3-Dichloropropene	16.6	U	33.3	10.4	16.6	ug/kg	1		02/27/23 17:52
Dibromochloromethane	6.65	U	13.3	4.00	6.65	ug/kg	1		02/27/23 17:52
Dibromomethane	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Dichlorodifluoromethane	133	U	266	79.9	133	ug/kg	1		02/27/23 17:52
Ethylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Freon-113	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
Hexachlorobutadiene	26.6	U	53.3	16.5	26.6	ug/kg	1		02/27/23 17:52
Isopropylbenzene (Cumene)	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Methylene chloride	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
Methyl-t-butyl ether	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
Naphthalene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
n-Butylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
n-Propylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
o-Xylene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
P & M -Xylene	66.5	U	133	40.0	66.5	ug/kg	1		02/27/23 17:52
sec-Butylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Styrene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
tert-Butylbenzene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
Tetrachloroethene	16.6	U	33.3	10.4	16.6	ug/kg	1		02/27/23 17:52
Toluene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
trans-1,2-Dichloroethene	33.3	U	66.6	20.8	33.3	ug/kg	1		02/27/23 17:52
trans-1,3-Dichloropropene	16.6	U	33.3	10.4	16.6	ug/kg	1		02/27/23 17:52
Trichloroethene	13.3	U	26.6	8.53	13.3	ug/kg	1		02/27/23 17:52
Trichlorofluoromethane	66.5	U	133	40.0	66.5	ug/kg	1		02/27/23 17:52
Vinyl acetate	133	U	266	82.6	133	ug/kg	1		02/27/23 17:52
Vinyl chloride	1.06	U	2.13	0.666	1.06	ug/kg	1		02/27/23 17:52
Xylenes (total)	100	U	200	60.7	100	ug/kg	1		02/27/23 17:52
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 17:52
4-Bromofluorobenzene (surr)	79.5		55-151			%	1		02/27/23 17:52
Toluene-d8 (surr)	97.7		85-116			%	1		02/27/23 17:52

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750002
Lab Project ID: 1230750

Collection Date: 02/20/23 10:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):71.7
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 17:52
Container ID: 1230750002-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/20/23 10:50
Prep Initial Wt./Vol.: 37.187 g
Prep Extract Vol: 35.5211 mL

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Aroclor-1221	56.5	U	113	28.3	56.5	ug/kg	1		03/21/23 18:18
Aroclor-1232	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Aroclor-1242	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Aroclor-1248	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Aroclor-1254	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Aroclor-1260	28.3	U	56.6	14.1	28.3	ug/kg	1		03/21/23 18:18
Surrogates									
Decachlorobiphenyl (surr)	90		60-125			%	1		03/21/23 18:18

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 18:18
Container ID: 1230750003-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.725 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
2-Methylnaphthalene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Acenaphthene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Acenaphthylene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Anthracene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Benzo(a)Anthracene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Benzo[a]pyrene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Benzo[b]Fluoranthene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Benzo[g,h,i]perylene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Benzo[k]fluoranthene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Chrysene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Dibenzo[a,h]anthracene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Fluoranthene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Fluorene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Indeno[1,2,3-c,d] pyrene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Naphthalene	56.5	U	113	28.3	56.5	ug/kg	5		03/06/23 16:46
Phenanthrene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Pyrene	71.0	U	142	35.4	71.0	ug/kg	5		03/06/23 16:46
Surrogates									
2-Methylnaphthalene-d10 (surr)	70.5		58-103			%	5		03/06/23 16:46
Fluoranthene-d10 (surr)	73.6		54-113			%	5		03/06/23 16:46

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 16:46
Container ID: 1230750003-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.705 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	70.7		22.7	10.2	11.4	mg/kg	1		03/01/23 16:58
Surrogates									
5a Androstane (surr)	92.4		50-150			%	1		03/01/23 16:58

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/01/23 16:58
Container ID: 1230750003-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.238 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	270		113	48.8	56.5	mg/kg	1		03/01/23 16:58
Surrogates									
n-Triacontane-d62 (surr)	97.4		50-150			%	1		03/01/23 16:58

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/01/23 16:58
Container ID: 1230750003-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.238 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.48	J	3.24	0.972	1.62	mg/kg	1		02/27/23 20:34
Surrogates									
4-Bromofluorobenzene (surr)	103		50-150			%	1		02/27/23 20:34

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 20:34
Container ID: 1230750003-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/21/23 10:40
Prep Initial Wt./Vol.: 56.625 g
Prep Extract Vol: 32.0857 mL

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	12.9	U	25.9	8.03	12.9	ug/kg	1		02/27/23 18:10
1,1,1-Trichloroethane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,1,2,2-Tetrachloroethane	1.29	U	2.59	0.803	1.29	ug/kg	1		02/27/23 18:10
1,1,2-Trichloroethane	0.650	U	1.30	0.648	0.650	ug/kg	1		02/27/23 18:10
1,1-Dichloroethane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,1-Dichloroethene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,1-Dichloropropene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,2,3-Trichlorobenzene	65.0	U	130	38.9	65.0	ug/kg	1		02/27/23 18:10
1,2,3-Trichloropropane	1.29	U	2.59	0.803	1.29	ug/kg	1		02/27/23 18:10
1,2,4-Trichlorobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,2,4-Trimethylbenzene	65.0	U	130	38.9	65.0	ug/kg	1		02/27/23 18:10
1,2-Dibromo-3-chloropropane	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
1,2-Dibromoethane	0.970	U	1.94	0.972	0.970	ug/kg	1		02/27/23 18:10
1,2-Dichlorobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,2-Dichloroethane	1.29	U	2.59	0.907	1.29	ug/kg	1		02/27/23 18:10
1,2-Dichloropropane	6.50	U	13.0	6.48	6.50	ug/kg	1		02/27/23 18:10
1,3,5-Trimethylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,3-Dichlorobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
1,3-Dichloropropane	6.50	U	13.0	4.02	6.50	ug/kg	1		02/27/23 18:10
1,4-Dichlorobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
2,2-Dichloropropane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
2-Butanone (MEK)	162	U	324	101	162	ug/kg	1		02/27/23 18:10
2-Chlorotoluene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
2-Hexanone	77.5	U	155	77.7	77.5	ug/kg	1		02/27/23 18:10
4-Chlorotoluene	12.9	U	25.9	13.0	12.9	ug/kg	1		02/27/23 18:10
4-Isopropyltoluene	52.0	U	104	51.8	52.0	ug/kg	1		02/27/23 18:10
4-Methyl-2-pentanone (MIBK)	162	U	324	101	162	ug/kg	1		02/27/23 18:10
Acetone	162	U	324	142	162	ug/kg	1		02/27/23 18:10
Benzene	8.10	U	16.2	5.05	8.10	ug/kg	1		02/27/23 18:10
Bromobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Bromochloromethane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Bromodichloromethane	1.29	U	2.59	0.803	1.29	ug/kg	1		02/27/23 18:10
Bromoform	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Bromomethane	12.9	U	25.9	10.4	12.9	ug/kg	1		02/27/23 18:10
Carbon disulfide	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
Carbon tetrachloride	8.10	U	16.2	5.05	8.10	ug/kg	1		02/27/23 18:10
Chlorobenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	130	U	259	80.3	130	ug/kg	1		02/27/23 18:10
Chloroform	3.88	U	7.77	3.89	3.88	ug/kg	1		02/27/23 18:10
Chloromethane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
cis-1,2-Dichloroethene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
cis-1,3-Dichloropropene	8.10	U	16.2	5.05	8.10	ug/kg	1		02/27/23 18:10
Dibromochloromethane	3.24	U	6.48	1.94	3.24	ug/kg	1		02/27/23 18:10
Dibromomethane	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Dichlorodifluoromethane	65.0	U	130	38.9	65.0	ug/kg	1		02/27/23 18:10
Ethylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Freon-113	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
Hexachlorobutadiene	12.9	U	25.9	8.03	12.9	ug/kg	1		02/27/23 18:10
Isopropylbenzene (Cumene)	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Methylene chloride	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
Methyl-t-butyl ether	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
Naphthalene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
n-Butylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
n-Propylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
o-Xylene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
P & M -Xylene	32.4	U	64.8	19.4	32.4	ug/kg	1		02/27/23 18:10
sec-Butylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Styrene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
tert-Butylbenzene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
Tetrachloroethene	8.10	U	16.2	5.05	8.10	ug/kg	1		02/27/23 18:10
Toluene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
trans-1,2-Dichloroethene	16.2	U	32.4	10.1	16.2	ug/kg	1		02/27/23 18:10
trans-1,3-Dichloropropene	8.10	U	16.2	5.05	8.10	ug/kg	1		02/27/23 18:10
Trichloroethene	6.50	U	13.0	4.15	6.50	ug/kg	1		02/27/23 18:10
Trichlorofluoromethane	32.4	U	64.8	19.4	32.4	ug/kg	1		02/27/23 18:10
Vinyl acetate	65.0	U	130	40.2	65.0	ug/kg	1		02/27/23 18:10
Vinyl chloride	0.520	U	1.04	0.324	0.520	ug/kg	1		02/27/23 18:10
Xylenes (total)	48.6	U	97.2	29.5	48.6	ug/kg	1		02/27/23 18:10
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		02/27/23 18:10
4-Bromofluorobenzene (surr)	104		55-151			%	1		02/27/23 18:10
Toluene-d8 (surr)	98.9		85-116			%	1		02/27/23 18:10

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750003
Lab Project ID: 1230750

Collection Date: 02/21/23 10:40
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):87.5
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 18:10
Container ID: 1230750003-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/21/23 10:40
Prep Initial Wt./Vol.: 56.625 g
Prep Extract Vol: 32.0857 mL

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Aroclor-1221	62.5	U	125	31.3	62.5	ug/kg	1		03/21/23 18:29
Aroclor-1232	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Aroclor-1242	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Aroclor-1248	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Aroclor-1254	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Aroclor-1260	31.3	U	62.6	15.7	31.3	ug/kg	1		03/21/23 18:29
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	1		03/21/23 18:29

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 18:29
Container ID: 1230750004-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.793 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
2-Methylnaphthalene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Acenaphthene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Acenaphthylene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Anthracene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Benzo(a)Anthracene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Benzo[a]pyrene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Benzo[b]Fluoranthene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Benzo[g,h,i]perylene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Benzo[k]fluoranthene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Chrysene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Dibenzo[a,h]anthracene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Fluoranthene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Fluorene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Indeno[1,2,3-c,d] pyrene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Naphthalene	12.6	U	25.2	6.30	12.6	ug/kg	1		03/05/23 19:02
Phenanthrene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Pyrene	15.8	U	31.5	7.87	15.8	ug/kg	1		03/05/23 19:02
Surrogates									
2-Methylnaphthalene-d10 (surr)	83.3		58-103			%	1		03/05/23 19:02
Fluoranthene-d10 (surr)	77.9		54-113			%	1		03/05/23 19:02

Batch Information

Analytical Batch: XMS13550
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/05/23 19:02
Container ID: 1230750004-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.659 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	15.4	J	25.0	11.2	12.5	mg/kg	1		03/01/23 17:08
Surrogates									
5a Androstane (surr)	86.6		50-150			%	1		03/01/23 17:08

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/01/23 17:08
Container ID: 1230750004-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.471 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	62.5	U	125	53.7	62.5	mg/kg	1		03/01/23 17:08
Surrogates									
n-Triacontane-d62 (surr)	88.8		50-150			%	1		03/01/23 17:08

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/01/23 17:08
Container ID: 1230750004-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.471 g
Prep Extract Vol: 5 mL

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	3.10	J	4.92	1.48	2.46	mg/kg	1		02/27/23 20:52
Surrogates									
4-Bromofluorobenzene (surr)	90.1		50-150			%	1		02/27/23 20:52

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 20:52
Container ID: 1230750004-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/21/23 11:30
Prep Initial Wt./Vol.: 44.331 g
Prep Extract Vol: 34.3919 mL

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	19.7	U	39.4	12.2	19.7	ug/kg	1		02/27/23 18:28
1,1,1-Trichloroethane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,1,2,2-Tetrachloroethane	1.97	U	3.94	1.22	1.97	ug/kg	1		02/27/23 18:28
1,1,2-Trichloroethane	0.985	U	1.97	0.984	0.985	ug/kg	1		02/27/23 18:28
1,1-Dichloroethane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,1-Dichloroethene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,1-Dichloropropene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,2,3-Trichlorobenzene	98.5	U	197	59.1	98.5	ug/kg	1		02/27/23 18:28
1,2,3-Trichloropropane	1.97	U	3.94	1.22	1.97	ug/kg	1		02/27/23 18:28
1,2,4-Trichlorobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,2,4-Trimethylbenzene	98.5	U	197	59.1	98.5	ug/kg	1		02/27/23 18:28
1,2-Dibromo-3-chloropropane	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
1,2-Dibromoethane	1.48	U	2.95	1.48	1.48	ug/kg	1		02/27/23 18:28
1,2-Dichlorobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,2-Dichloroethane	1.97	U	3.94	1.38	1.97	ug/kg	1		02/27/23 18:28
1,2-Dichloropropane	9.85	U	19.7	9.84	9.85	ug/kg	1		02/27/23 18:28
1,3,5-Trimethylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,3-Dichlorobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
1,3-Dichloropropane	9.85	U	19.7	6.10	9.85	ug/kg	1		02/27/23 18:28
1,4-Dichlorobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
2,2-Dichloropropane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
2-Butanone (MEK)	246	U	492	154	246	ug/kg	1		02/27/23 18:28
2-Chlorotoluene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
2-Hexanone	118	U	236	118	118	ug/kg	1		02/27/23 18:28
4-Chlorotoluene	19.7	U	39.4	19.7	19.7	ug/kg	1		02/27/23 18:28
4-Isopropyltoluene	78.5	U	157	78.7	78.5	ug/kg	1		02/27/23 18:28
4-Methyl-2-pentanone (MIBK)	246	U	492	154	246	ug/kg	1		02/27/23 18:28
Acetone	246	U	492	217	246	ug/kg	1		02/27/23 18:28
Benzene	12.3	U	24.6	7.68	12.3	ug/kg	1		02/27/23 18:28
Bromobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Bromochloromethane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Bromodichloromethane	1.97	U	3.94	1.22	1.97	ug/kg	1		02/27/23 18:28
Bromoform	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Bromomethane	19.7	U	39.4	15.7	19.7	ug/kg	1		02/27/23 18:28
Carbon disulfide	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
Carbon tetrachloride	12.3	U	24.6	7.68	12.3	ug/kg	1		02/27/23 18:28
Chlorobenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	197	U	394	122	197	ug/kg	1		02/27/23 18:28
Chloroform	5.90	U	11.8	5.91	5.90	ug/kg	1		02/27/23 18:28
Chloromethane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
cis-1,2-Dichloroethene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
cis-1,3-Dichloropropene	12.3	U	24.6	7.68	12.3	ug/kg	1		02/27/23 18:28
Dibromochloromethane	4.92	U	9.84	2.95	4.92	ug/kg	1		02/27/23 18:28
Dibromomethane	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Dichlorodifluoromethane	98.5	U	197	59.1	98.5	ug/kg	1		02/27/23 18:28
Ethylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Freon-113	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
Hexachlorobutadiene	19.7	U	39.4	12.2	19.7	ug/kg	1		02/27/23 18:28
Isopropylbenzene (Cumene)	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Methylene chloride	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
Methyl-t-butyl ether	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
Naphthalene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
n-Butylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
n-Propylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
o-Xylene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
P & M -Xylene	49.2	U	98.4	29.5	49.2	ug/kg	1		02/27/23 18:28
sec-Butylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Styrene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
tert-Butylbenzene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
Tetrachloroethene	12.3	U	24.6	7.68	12.3	ug/kg	1		02/27/23 18:28
Toluene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
trans-1,2-Dichloroethene	24.6	U	49.2	15.4	24.6	ug/kg	1		02/27/23 18:28
trans-1,3-Dichloropropene	12.3	U	24.6	7.68	12.3	ug/kg	1		02/27/23 18:28
Trichloroethene	9.85	U	19.7	6.30	9.85	ug/kg	1		02/27/23 18:28
Trichlorofluoromethane	49.2	U	98.4	29.5	49.2	ug/kg	1		02/27/23 18:28
Vinyl acetate	98.5	U	197	61.0	98.5	ug/kg	1		02/27/23 18:28
Vinyl chloride	0.785	U	1.57	0.492	0.785	ug/kg	1		02/27/23 18:28
Xylenes (total)	74.0	U	148	44.9	74.0	ug/kg	1		02/27/23 18:28
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 18:28
4-Bromofluorobenzene (surr)	88.4		55-151			%	1		02/27/23 18:28
Toluene-d8 (surr)	99.1		85-116			%	1		02/27/23 18:28

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750004
Lab Project ID: 1230750

Collection Date: 02/21/23 11:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):78.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 18:28
Container ID: 1230750004-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/21/23 11:30
Prep Initial Wt./Vol.: 44.331 g
Prep Extract Vol: 34.3919 mL

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Aroclor-1221	56.5	U	113	28.2	56.5	ug/kg	1		03/21/23 18:40
Aroclor-1232	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Aroclor-1242	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Aroclor-1248	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Aroclor-1254	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Aroclor-1260	28.2	U	56.4	14.1	28.2	ug/kg	1		03/21/23 18:40
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	1		03/21/23 18:40

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 18:40
Container ID: 1230750005-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.571 g
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
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Member of SGS Group

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
2-Methylnaphthalene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Acenaphthene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Acenaphthylene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Anthracene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Benzo(a)Anthracene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Benzo[a]pyrene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Benzo[b]Fluoranthene	40.3	J	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Benzo[g,h,i]perylene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Benzo[k]fluoranthene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Chrysene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Dibenzo[a,h]anthracene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Fluoranthene	53.1	J	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Fluorene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Indeno[1,2,3-c,d] pyrene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Naphthalene	56.5	U	113	28.2	56.5	ug/kg	5		03/06/23 17:02
Phenanthrene	70.5	U	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Pyrene	50.9	J	141	35.2	70.5	ug/kg	5		03/06/23 17:02
Surrogates									
2-Methylnaphthalene-d10 (surr)	86.1		58-103			%	5		03/06/23 17:02
Fluoranthene-d10 (surr)	87.3		54-113			%	5		03/06/23 17:02

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 17:02
Container ID: 1230750005-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.592 g
Prep Extract Vol: 5 mL

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	36.7		22.3	10.0	11.2	mg/kg	1		03/01/23 17:18
Surrogates									
5a Androstane (surr)	84.6		50-150			%	1		03/01/23 17:18

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/01/23 17:18
Container ID: 1230750005-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.432 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	278		112	48.0	56.0	mg/kg	1		03/01/23 17:18
Surrogates									
n-Triacontane-d62 (surr)	92.2		50-150			%	1		03/01/23 17:18

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/01/23 17:18
Container ID: 1230750005-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.432 g
Prep Extract Vol: 5 mL

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.19	J	3.06	0.918	1.53	mg/kg	1		02/27/23 21:11
Surrogates									
4-Bromofluorobenzene (surr)	97.7		50-150			%	1		02/27/23 21:11

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 21:11
Container ID: 1230750005-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/22/23 14:35
Prep Initial Wt./Vol.: 58.806 g
Prep Extract Vol: 31.8276 mL

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	12.3	U	24.5	7.59	12.3	ug/kg	1		02/27/23 18:45
1,1,1-Trichloroethane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,1,2,2-Tetrachloroethane	1.23	U	2.45	0.759	1.23	ug/kg	1		02/27/23 18:45
1,1,2-Trichloroethane	0.610	U	1.22	0.612	0.610	ug/kg	1		02/27/23 18:45
1,1-Dichloroethane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,1-Dichloroethene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,1-Dichloropropene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,2,3-Trichlorobenzene	61.0	U	122	36.7	61.0	ug/kg	1		02/27/23 18:45
1,2,3-Trichloropropane	1.23	U	2.45	0.759	1.23	ug/kg	1		02/27/23 18:45
1,2,4-Trichlorobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,2,4-Trimethylbenzene	61.0	U	122	36.7	61.0	ug/kg	1		02/27/23 18:45
1,2-Dibromo-3-chloropropane	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
1,2-Dibromoethane	0.920	U	1.84	0.918	0.920	ug/kg	1		02/27/23 18:45
1,2-Dichlorobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,2-Dichloroethane	1.23	U	2.45	0.857	1.23	ug/kg	1		02/27/23 18:45
1,2-Dichloropropane	6.10	U	12.2	6.12	6.10	ug/kg	1		02/27/23 18:45
1,3,5-Trimethylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,3-Dichlorobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
1,3-Dichloropropane	6.10	U	12.2	3.80	6.10	ug/kg	1		02/27/23 18:45
1,4-Dichlorobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
2,2-Dichloropropane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
2-Butanone (MEK)	153	U	306	95.5	153	ug/kg	1		02/27/23 18:45
2-Chlorotoluene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
2-Hexanone	73.5	U	147	73.5	73.5	ug/kg	1		02/27/23 18:45
4-Chlorotoluene	12.3	U	24.5	12.2	12.3	ug/kg	1		02/27/23 18:45
4-Isopropyltoluene	49.0	U	98.0	49.0	49.0	ug/kg	1		02/27/23 18:45
4-Methyl-2-pentanone (MIBK)	153	U	306	95.5	153	ug/kg	1		02/27/23 18:45
Acetone	153	U	306	135	153	ug/kg	1		02/27/23 18:45
Benzene	7.65	U	15.3	4.78	7.65	ug/kg	1		02/27/23 18:45
Bromobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Bromochloromethane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Bromodichloromethane	1.23	U	2.45	0.759	1.23	ug/kg	1		02/27/23 18:45
Bromoform	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Bromomethane	12.3	U	24.5	9.80	12.3	ug/kg	1		02/27/23 18:45
Carbon disulfide	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
Carbon tetrachloride	7.65	U	15.3	4.78	7.65	ug/kg	1		02/27/23 18:45
Chlorobenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	123	U	245	75.9	123	ug/kg	1		02/27/23 18:45
Chloroform	3.67	U	7.35	3.67	3.67	ug/kg	1		02/27/23 18:45
Chloromethane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
cis-1,2-Dichloroethene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
cis-1,3-Dichloropropene	7.65	U	15.3	4.78	7.65	ug/kg	1		02/27/23 18:45
Dibromochloromethane	3.06	U	6.12	1.84	3.06	ug/kg	1		02/27/23 18:45
Dibromomethane	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Dichlorodifluoromethane	61.0	U	122	36.7	61.0	ug/kg	1		02/27/23 18:45
Ethylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Freon-113	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
Hexachlorobutadiene	12.3	U	24.5	7.59	12.3	ug/kg	1		02/27/23 18:45
Isopropylbenzene (Cumene)	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Methylene chloride	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
Methyl-t-butyl ether	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
Naphthalene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
n-Butylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
n-Propylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
o-Xylene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
P & M -Xylene	30.6	U	61.2	18.4	30.6	ug/kg	1		02/27/23 18:45
sec-Butylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Styrene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
tert-Butylbenzene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
Tetrachloroethene	7.65	U	15.3	4.78	7.65	ug/kg	1		02/27/23 18:45
Toluene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
trans-1,2-Dichloroethene	15.3	U	30.6	9.55	15.3	ug/kg	1		02/27/23 18:45
trans-1,3-Dichloropropene	7.65	U	15.3	4.78	7.65	ug/kg	1		02/27/23 18:45
Trichloroethene	6.10	U	12.2	3.92	6.10	ug/kg	1		02/27/23 18:45
Trichlorofluoromethane	30.6	U	61.2	18.4	30.6	ug/kg	1		02/27/23 18:45
Vinyl acetate	61.0	U	122	38.0	61.0	ug/kg	1		02/27/23 18:45
Vinyl chloride	0.490	U	0.980	0.306	0.490	ug/kg	1		02/27/23 18:45
Xylenes (total)	45.9	U	91.8	27.9	45.9	ug/kg	1		02/27/23 18:45
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 18:45
4-Bromofluorobenzene (surr)	94.7		55-151			%	1		02/27/23 18:45
Toluene-d8 (surr)	97.9		85-116			%	1		02/27/23 18:45

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750005
Lab Project ID: 1230750

Collection Date: 02/22/23 14:35
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):88.4
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 18:45
Container ID: 1230750005-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/22/23 14:35
Prep Initial Wt./Vol.: 58.806 g
Prep Extract Vol: 31.8276 mL

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Aroclor-1221	59.0	U	118	29.4	59.0	ug/kg	1		03/21/23 18:52
Aroclor-1232	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Aroclor-1242	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Aroclor-1248	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Aroclor-1254	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Aroclor-1260	29.4	U	58.8	14.7	29.4	ug/kg	1		03/21/23 18:52
Surrogates									
Decachlorobiphenyl (surr)	77.5		60-125			%	1		03/21/23 18:52

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 18:52
Container ID: 1230750006-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.772 g
Prep Extract Vol: 5 mL

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	6450		588	147	294	ug/kg	20		03/08/23 12:55
2-Methylnaphthalene	9670		588	147	294	ug/kg	20		03/08/23 12:55
Acenaphthene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Acenaphthylene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Anthracene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Benzo(a)Anthracene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Benzo[a]pyrene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Benzo[b]Fluoranthene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Benzo[g,h,i]perylene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Benzo[k]fluoranthene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Chrysene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Dibenzo[a,h]anthracene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Fluoranthene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Fluorene	245		29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Indeno[1,2,3-c,d] pyrene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Naphthalene	4030		471	118	236	ug/kg	20		03/08/23 12:55
Phenanthrene	192		29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Pyrene	14.7	U	29.4	7.35	14.7	ug/kg	1		03/06/23 17:18
Surrogates									
2-Methylnaphthalene-d10 (surr)	94.7		58-103			%	1		03/06/23 17:18
Fluoranthene-d10 (surr)	81.8		54-113			%	1		03/06/23 17:18

Batch Information

Analytical Batch: XMS13552
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/08/23 12:55
Container ID: 1230750006-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.767 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 17:18
Container ID: 1230750006-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.767 g
Prep Extract Vol: 5 mL

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1420		23.8	10.7	11.9	mg/kg	1		03/09/23 09:35
Surrogates									
5a Androstane (surr)	102		50-150			%	1		03/09/23 09:35

Batch Information

Analytical Batch: XFC16461
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 03/09/23 09:35
Container ID: 1230750006-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.007 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	161		119	51.2	59.5	mg/kg	1		03/09/23 09:35
Surrogates									
n-Triacontane-d62 (surr)	105		50-150			%	1		03/09/23 09:35

Batch Information

Analytical Batch: XFC16461
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 03/09/23 09:35
Container ID: 1230750006-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.007 g
Prep Extract Vol: 5 mL

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	531		22.6	6.78	11.3	mg/kg	5		02/27/23 18:41
Surrogates									
4-Bromofluorobenzene (surr)	1500	*	50-150			%	5		02/27/23 18:41

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 18:41
Container ID: 1230750006-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/22/23 15:00
Prep Initial Wt./Vol.: 41.702 g
Prep Extract Vol: 31.6762 mL

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	90.5	U	181	56.1	90.5	ug/kg	5		02/27/23 15:32
1,1,1-Trichloroethane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,1,2,2-Tetrachloroethane	9.05	U	18.1	5.61	9.05	ug/kg	5		02/27/23 15:32
1,1,2-Trichloroethane	4.52	U	9.04	4.52	4.52	ug/kg	5		02/27/23 15:32
1,1-Dichloroethane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,1-Dichloroethene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,1-Dichloropropene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,2,3-Trichlorobenzene	452	U	904	271	452	ug/kg	5		02/27/23 15:32
1,2,3-Trichloropropane	9.05	U	18.1	5.61	9.05	ug/kg	5		02/27/23 15:32
1,2,4-Trichlorobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,2,4-Trimethylbenzene	14500		904	271	452	ug/kg	5		02/27/23 15:32
1,2-Dibromo-3-chloropropane	452	U	904	280	452	ug/kg	5		02/27/23 15:32
1,2-Dibromoethane	6.80	U	13.6	6.78	6.80	ug/kg	5		02/27/23 15:32
1,2-Dichlorobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,2-Dichloroethane	9.05	U	18.1	6.33	9.05	ug/kg	5		02/27/23 15:32
1,2-Dichloropropane	45.2	U	90.4	45.2	45.2	ug/kg	5		02/27/23 15:32
1,3,5-Trimethylbenzene	5910		226	70.5	113	ug/kg	5		02/27/23 15:32
1,3-Dichlorobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
1,3-Dichloropropane	45.2	U	90.4	28.0	45.2	ug/kg	5		02/27/23 15:32
1,4-Dichlorobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
2,2-Dichloropropane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
2-Butanone (MEK)	1130	U	2260	705	1130	ug/kg	5		02/27/23 15:32
2-Chlorotoluene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
2-Hexanone	545	U	1090	543	545	ug/kg	5		02/27/23 15:32
4-Chlorotoluene	90.5	U	181	90.4	90.5	ug/kg	5		02/27/23 15:32
4-Isopropyltoluene	1180		723	362	362	ug/kg	5		02/27/23 15:32
4-Methyl-2-pentanone (MIBK)	1130	U	2260	705	1130	ug/kg	5		02/27/23 15:32
Acetone	1130	U	2260	995	1130	ug/kg	5		02/27/23 15:32
Benzene	72.1	J	113	35.3	56.5	ug/kg	5		02/27/23 15:32
Bromobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
Bromochloromethane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
Bromodichloromethane	9.05	U	18.1	5.61	9.05	ug/kg	5		02/27/23 15:32
Bromoform	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
Bromomethane	90.5	U	181	72.3	90.5	ug/kg	5		02/27/23 15:32
Carbon disulfide	452	U	904	280	452	ug/kg	5		02/27/23 15:32
Carbon tetrachloride	56.5	U	113	35.3	56.5	ug/kg	5		02/27/23 15:32
Chlorobenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	905	U	1810	561	905	ug/kg	5		02/27/23 15:32
Chloroform	27.1	U	54.3	27.1	27.1	ug/kg	5		02/27/23 15:32
Chloromethane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
cis-1,2-Dichloroethene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
cis-1,3-Dichloropropene	56.5	U	113	35.3	56.5	ug/kg	5		02/27/23 15:32
Dibromochloromethane	22.6	U	45.2	13.6	22.6	ug/kg	5		02/27/23 15:32
Dibromomethane	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
Dichlorodifluoromethane	452	U	904	271	452	ug/kg	5		02/27/23 15:32
Ethylbenzene	3220		226	70.5	113	ug/kg	5		02/27/23 15:32
Freon-113	452	U	904	280	452	ug/kg	5		02/27/23 15:32
Hexachlorobutadiene	90.5	U	181	56.1	90.5	ug/kg	5		02/27/23 15:32
Isopropylbenzene (Cumene)	1300		226	70.5	113	ug/kg	5		02/27/23 15:32
Methylene chloride	452	U	904	280	452	ug/kg	5		02/27/23 15:32
Methyl-t-butyl ether	452	U	904	280	452	ug/kg	5		02/27/23 15:32
Naphthalene	7940		226	70.5	113	ug/kg	5		02/27/23 15:32
n-Butylbenzene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
n-Propylbenzene	1970		226	70.5	113	ug/kg	5		02/27/23 15:32
o-Xylene	5440		226	70.5	113	ug/kg	5		02/27/23 15:32
P & M -Xylene	4780		452	136	226	ug/kg	5		02/27/23 15:32
sec-Butylbenzene	1590		226	70.5	113	ug/kg	5		02/27/23 15:32
Styrene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
tert-Butylbenzene	129	J	226	70.5	113	ug/kg	5		02/27/23 15:32
Tetrachloroethene	49.1	J	113	35.3	56.5	ug/kg	5		02/27/23 15:32
Toluene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
trans-1,2-Dichloroethene	113	U	226	70.5	113	ug/kg	5		02/27/23 15:32
trans-1,3-Dichloropropene	56.5	U	113	35.3	56.5	ug/kg	5		02/27/23 15:32
Trichloroethene	45.2	U	90.4	28.9	45.2	ug/kg	5		02/27/23 15:32
Trichlorofluoromethane	226	U	452	136	226	ug/kg	5		02/27/23 15:32
Vinyl acetate	452	U	904	280	452	ug/kg	5		02/27/23 15:32
Vinyl chloride	3.62	U	7.23	2.26	3.62	ug/kg	5		02/27/23 15:32
Xylenes (total)	10200		678	206	339	ug/kg	5		02/27/23 15:32
Surrogates									
1,2-Dichloroethane-D4 (surr)	98.4		71-136			%	5		02/27/23 15:32
4-Bromofluorobenzene (surr)	121		55-151			%	5		02/27/23 15:32
Toluene-d8 (surr)	112		85-116			%	5		02/27/23 15:32

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750006
Lab Project ID: 1230750

Collection Date: 02/22/23 15:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 15:32
Container ID: 1230750006-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/22/23 15:00
Prep Initial Wt./Vol.: 41.702 g
Prep Extract Vol: 31.6762 mL

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Aroclor-1221	58.5	U	117	29.3	58.5	ug/kg	1		03/21/23 19:03
Aroclor-1232	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Aroclor-1242	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Aroclor-1248	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Aroclor-1254	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Aroclor-1260	29.4	U	58.7	14.7	29.4	ug/kg	1		03/21/23 19:03
Surrogates									
Decachlorobiphenyl (surr)	82.5		60-125			%	1		03/21/23 19:03

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 19:03
Container ID: 1230750007-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.801 g
Prep Extract Vol: 5 mL

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	6220			587	147	294	ug/kg	20		03/08/23 13:11
2-Methylnaphthalene	9440			587	147	294	ug/kg	20		03/08/23 13:11
Acenaphthene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Acenaphthylene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Anthracene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Benzo(a)Anthracene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Benzo[a]pyrene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Benzo[b]Fluoranthene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Benzo[g,h,i]perylene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Benzo[k]fluoranthene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Chrysene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Dibenzo[a,h]anthracene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Fluoranthene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Fluorene	232			29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Indeno[1,2,3-c,d] pyrene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Naphthalene	4040			470	117	235	ug/kg	20		03/08/23 13:11
Phenanthrene	184			29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Pyrene	14.7	U		29.4	7.34	14.7	ug/kg	1		03/06/23 17:34
Surrogates										
2-Methylnaphthalene-d10 (surr)	104		*	58-103			%	1		03/06/23 17:34
Fluoranthene-d10 (surr)	86.3			54-113			%	1		03/06/23 17:34

Batch Information

Analytical Batch: XMS13552
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/08/23 13:11
Container ID: 1230750007-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.766 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 17:34
Container ID: 1230750007-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.766 g
Prep Extract Vol: 5 mL

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	886		23.4	10.5	11.7	mg/kg	1		03/09/23 09:45
Surrogates									
5a Androstane (surr)	91.7		50-150			%	1		03/09/23 09:45

Batch Information

Analytical Batch: XFC16461
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 03/09/23 09:45
Container ID: 1230750007-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.464 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	83.6	J	117	50.3	58.5	mg/kg	1		03/09/23 09:45
Surrogates									
n-Triacontane-d62 (surr)	93.8		50-150			%	1		03/09/23 09:45

Batch Information

Analytical Batch: XFC16461
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 03/09/23 09:45
Container ID: 1230750007-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.464 g
Prep Extract Vol: 5 mL

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	274		19.9	5.98	9.95	mg/kg	5		02/27/23 19:00
Surrogates									
4-Bromofluorobenzene (surr)	800	*	50-150			%	5		02/27/23 19:00

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 19:00
Container ID: 1230750007-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 15:30
Prep Initial Wt./Vol.: 48.841 g
Prep Extract Vol: 32.7586 mL

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	79.5	U	159	49.4	79.5	ug/kg	5		02/27/23 15:49
1,1,1-Trichloroethane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,1,2,2-Tetrachloroethane	7.95	U	15.9	4.94	7.95	ug/kg	5		02/27/23 15:49
1,1,2-Trichloroethane	3.98	U	7.97	3.99	3.98	ug/kg	5		02/27/23 15:49
1,1-Dichloroethane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,1-Dichloroethene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,1-Dichloropropene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,2,3-Trichlorobenzene	399	U	797	239	399	ug/kg	5		02/27/23 15:49
1,2,3-Trichloropropane	7.95	U	15.9	4.94	7.95	ug/kg	5		02/27/23 15:49
1,2,4-Trichlorobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,2,4-Trimethylbenzene	8670		797	239	399	ug/kg	5		02/27/23 15:49
1,2-Dibromo-3-chloropropane	399	U	797	247	399	ug/kg	5		02/27/23 15:49
1,2-Dibromoethane	6.00	U	12.0	5.98	6.00	ug/kg	5		02/27/23 15:49
1,2-Dichlorobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,2-Dichloroethane	7.95	U	15.9	5.58	7.95	ug/kg	5		02/27/23 15:49
1,2-Dichloropropane	39.9	U	79.7	39.9	39.9	ug/kg	5		02/27/23 15:49
1,3,5-Trimethylbenzene	3570		199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,3-Dichlorobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
1,3-Dichloropropane	39.9	U	79.7	24.7	39.9	ug/kg	5		02/27/23 15:49
1,4-Dichlorobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
2,2-Dichloropropane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
2-Butanone (MEK)	995	U	1990	622	995	ug/kg	5		02/27/23 15:49
2-Chlorotoluene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
2-Hexanone	479	U	957	478	479	ug/kg	5		02/27/23 15:49
4-Chlorotoluene	79.5	U	159	79.7	79.5	ug/kg	5		02/27/23 15:49
4-Isopropyltoluene	674		638	319	319	ug/kg	5		02/27/23 15:49
4-Methyl-2-pentanone (MIBK)	995	U	1990	622	995	ug/kg	5		02/27/23 15:49
Acetone	995	U	1990	877	995	ug/kg	5		02/27/23 15:49
Benzene	85.1	J	99.7	31.1	49.9	ug/kg	5		02/27/23 15:49
Bromobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
Bromochloromethane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
Bromodichloromethane	7.95	U	15.9	4.94	7.95	ug/kg	5		02/27/23 15:49
Bromoform	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
Bromomethane	79.5	U	159	63.8	79.5	ug/kg	5		02/27/23 15:49
Carbon disulfide	399	U	797	247	399	ug/kg	5		02/27/23 15:49
Carbon tetrachloride	49.9	U	99.7	31.1	49.9	ug/kg	5		02/27/23 15:49
Chlorobenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	795	U	1590	494	795	ug/kg	5		02/27/23 15:49
Chloroform	23.9	U	47.8	23.9	23.9	ug/kg	5		02/27/23 15:49
Chloromethane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
cis-1,2-Dichloroethene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
cis-1,3-Dichloropropene	49.9	U	99.7	31.1	49.9	ug/kg	5		02/27/23 15:49
Dibromochloromethane	19.9	U	39.9	12.0	19.9	ug/kg	5		02/27/23 15:49
Dibromomethane	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
Dichlorodifluoromethane	399	U	797	239	399	ug/kg	5		02/27/23 15:49
Ethylbenzene	1940		199	62.2	99.5	ug/kg	5		02/27/23 15:49
Freon-113	399	U	797	247	399	ug/kg	5		02/27/23 15:49
Hexachlorobutadiene	79.5	U	159	49.4	79.5	ug/kg	5		02/27/23 15:49
Isopropylbenzene (Cumene)	810		199	62.2	99.5	ug/kg	5		02/27/23 15:49
Methylene chloride	399	U	797	247	399	ug/kg	5		02/27/23 15:49
Methyl-t-butyl ether	399	U	797	247	399	ug/kg	5		02/27/23 15:49
Naphthalene	5580		199	62.2	99.5	ug/kg	5		02/27/23 15:49
n-Butylbenzene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
n-Propylbenzene	1330		199	62.2	99.5	ug/kg	5		02/27/23 15:49
o-Xylene	2940		199	62.2	99.5	ug/kg	5		02/27/23 15:49
P & M -Xylene	3380		399	120	200	ug/kg	5		02/27/23 15:49
sec-Butylbenzene	996		199	62.2	99.5	ug/kg	5		02/27/23 15:49
Styrene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
tert-Butylbenzene	80.0	J	199	62.2	99.5	ug/kg	5		02/27/23 15:49
Tetrachloroethene	32.3	J	99.7	31.1	49.9	ug/kg	5		02/27/23 15:49
Toluene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
trans-1,2-Dichloroethene	99.5	U	199	62.2	99.5	ug/kg	5		02/27/23 15:49
trans-1,3-Dichloropropene	49.9	U	99.7	31.1	49.9	ug/kg	5		02/27/23 15:49
Trichloroethene	39.9	U	79.7	25.5	39.9	ug/kg	5		02/27/23 15:49
Trichlorofluoromethane	200	U	399	120	200	ug/kg	5		02/27/23 15:49
Vinyl acetate	399	U	797	247	399	ug/kg	5		02/27/23 15:49
Vinyl chloride	3.19	U	6.38	1.99	3.19	ug/kg	5		02/27/23 15:49
Xylenes (total)	6320		598	182	299	ug/kg	5		02/27/23 15:49
Surrogates									
1,2-Dichloroethane-D4 (surr)	98.2		71-136			%	5		02/27/23 15:49
4-Bromofluorobenzene (surr)	107		55-151			%	5		02/27/23 15:49
Toluene-d8 (surr)	103		85-116			%	5		02/27/23 15:49

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Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750007
Lab Project ID: 1230750

Collection Date: 02/23/23 15:30
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):84.1
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 15:49
Container ID: 1230750007-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 15:30
Prep Initial Wt./Vol.: 48.841 g
Prep Extract Vol: 32.7586 mL

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Aroclor-1221	119	U	238	59.4	119	ug/kg	2		03/21/23 17:09
Aroclor-1232	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Aroclor-1242	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Aroclor-1248	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Aroclor-1254	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Aroclor-1260	59.5	U	119	29.7	59.5	ug/kg	2		03/21/23 17:09
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	2		03/21/23 17:09

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 17:09
Container ID: 1230750008-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.855 g
Prep Extract Vol: 5 mL

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
2-Methylnaphthalene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Acenaphthene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Acenaphthylene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Anthracene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Benzo(a)Anthracene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Benzo[a]pyrene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Benzo[b]Fluoranthene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Benzo[g,h,i]perylene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Benzo[k]fluoranthene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Chrysene	92.6	J	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Dibenzo[a,h]anthracene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Fluoranthene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Fluorene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Indeno[1,2,3-c,d] pyrene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Naphthalene	60.0	U	120	29.9	60.0	ug/kg	5		03/06/23 17:50
Phenanthrene	74.5	U	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Pyrene	41.6	J	149	37.3	74.5	ug/kg	5		03/06/23 17:50
Surrogates									
2-Methylnaphthalene-d10 (surr)	77.9		58-103			%	5		03/06/23 17:50
Fluoranthene-d10 (surr)	81.3		54-113			%	5		03/06/23 17:50

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 17:50
Container ID: 1230750008-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.717 g
Prep Extract Vol: 5 mL

Print Date: 03/29/2023 8:35:31AM

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Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	232		95.1	42.8	47.5	mg/kg	4		03/02/23 21:18
Surrogates									
5a Androstane (surr)	109		50-150			%	4		03/02/23 21:18

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/02/23 21:18
Container ID: 1230750008-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.454 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	3600		475	204	238	mg/kg	4		03/02/23 21:18
Surrogates									
n-Triacontane-d62 (surr)	118		50-150			%	4		03/02/23 21:18

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/02/23 21:18
Container ID: 1230750008-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.454 g
Prep Extract Vol: 5 mL

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.37	J	3.75	1.13	1.88	mg/kg	1		02/27/23 21:30
Surrogates									
4-Bromofluorobenzene (surr)	98.6		50-150			%	1		02/27/23 21:30

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 21:30
Container ID: 1230750008-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 16:00
Prep Initial Wt./Vol.: 55.469 g
Prep Extract Vol: 34.4979 mL

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	15.0	U	30.0	9.31	15.0	ug/kg	1		02/27/23 19:03
1,1,1-Trichloroethane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,1,2,2-Tetrachloroethane	1.50	U	3.00	0.931	1.50	ug/kg	1		02/27/23 19:03
1,1,2-Trichloroethane	0.750	U	1.50	0.750	0.750	ug/kg	1		02/27/23 19:03
1,1-Dichloroethane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,1-Dichloroethene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,1-Dichloropropene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,2,3-Trichlorobenzene	75.0	U	150	45.0	75.0	ug/kg	1		02/27/23 19:03
1,2,3-Trichloropropane	1.50	U	3.00	0.931	1.50	ug/kg	1		02/27/23 19:03
1,2,4-Trichlorobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,2,4-Trimethylbenzene	75.0	U	150	45.0	75.0	ug/kg	1		02/27/23 19:03
1,2-Dibromo-3-chloropropane	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
1,2-Dibromoethane	1.13	U	2.25	1.13	1.13	ug/kg	1		02/27/23 19:03
1,2-Dichlorobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,2-Dichloroethane	1.50	U	3.00	1.05	1.50	ug/kg	1		02/27/23 19:03
1,2-Dichloropropane	7.50	U	15.0	7.50	7.50	ug/kg	1		02/27/23 19:03
1,3,5-Trimethylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,3-Dichlorobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
1,3-Dichloropropane	7.50	U	15.0	4.65	7.50	ug/kg	1		02/27/23 19:03
1,4-Dichlorobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
2,2-Dichloropropane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
2-Butanone (MEK)	188	U	375	117	188	ug/kg	1		02/27/23 19:03
2-Chlorotoluene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
2-Hexanone	90.0	U	180	90.1	90.0	ug/kg	1		02/27/23 19:03
4-Chlorotoluene	15.0	U	30.0	15.0	15.0	ug/kg	1		02/27/23 19:03
4-Isopropyltoluene	60.0	U	120	60.0	60.0	ug/kg	1		02/27/23 19:03
4-Methyl-2-pentanone (MIBK)	188	U	375	117	188	ug/kg	1		02/27/23 19:03
Acetone	188	U	375	165	188	ug/kg	1		02/27/23 19:03
Benzene	9.40	U	18.8	5.85	9.40	ug/kg	1		02/27/23 19:03
Bromobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Bromochloromethane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Bromodichloromethane	1.50	U	3.00	0.931	1.50	ug/kg	1		02/27/23 19:03
Bromoform	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Bromomethane	15.0	U	30.0	12.0	15.0	ug/kg	1		02/27/23 19:03
Carbon disulfide	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
Carbon tetrachloride	9.40	U	18.8	5.85	9.40	ug/kg	1		02/27/23 19:03
Chlorobenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	150	U	300	93.1	150	ug/kg	1		02/27/23 19:03
Chloroform	4.50	U	9.01	4.50	4.50	ug/kg	1		02/27/23 19:03
Chloromethane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
cis-1,2-Dichloroethene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
cis-1,3-Dichloropropene	9.40	U	18.8	5.85	9.40	ug/kg	1		02/27/23 19:03
Dibromochloromethane	3.75	U	7.50	2.25	3.75	ug/kg	1		02/27/23 19:03
Dibromomethane	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Dichlorodifluoromethane	75.0	U	150	45.0	75.0	ug/kg	1		02/27/23 19:03
Ethylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Freon-113	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
Hexachlorobutadiene	15.0	U	30.0	9.31	15.0	ug/kg	1		02/27/23 19:03
Isopropylbenzene (Cumene)	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Methylene chloride	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
Methyl-t-butyl ether	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
Naphthalene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
n-Butylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
n-Propylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
o-Xylene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
P & M -Xylene	37.5	U	75.0	22.5	37.5	ug/kg	1		02/27/23 19:03
sec-Butylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Styrene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
tert-Butylbenzene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
Tetrachloroethene	9.40	U	18.8	5.85	9.40	ug/kg	1		02/27/23 19:03
Toluene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
trans-1,2-Dichloroethene	18.8	U	37.5	11.7	18.8	ug/kg	1		02/27/23 19:03
trans-1,3-Dichloropropene	9.40	U	18.8	5.85	9.40	ug/kg	1		02/27/23 19:03
Trichloroethene	7.50	U	15.0	4.80	7.50	ug/kg	1		02/27/23 19:03
Trichlorofluoromethane	37.5	U	75.0	22.5	37.5	ug/kg	1		02/27/23 19:03
Vinyl acetate	75.0	U	150	46.5	75.0	ug/kg	1		02/27/23 19:03
Vinyl chloride	0.600	U	1.20	0.375	0.600	ug/kg	1		02/27/23 19:03
Xylenes (total)	56.5	U	113	34.2	56.5	ug/kg	1		02/27/23 19:03
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 19:03
4-Bromofluorobenzene (surr)	96.4		55-151			%	1		02/27/23 19:03
Toluene-d8 (surr)	98		85-116			%	1		02/27/23 19:03

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750008
Lab Project ID: 1230750

Collection Date: 02/23/23 16:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):82.9
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 19:03
Container ID: 1230750008-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 16:00
Prep Initial Wt./Vol.: 55.469 g
Prep Extract Vol: 34.4979 mL

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Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Aroclor-1221	57.5	U	115	28.8	57.5	ug/kg	1		03/21/23 19:14
Aroclor-1232	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Aroclor-1242	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Aroclor-1248	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Aroclor-1254	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Aroclor-1260	28.8	U	57.5	14.4	28.8	ug/kg	1		03/21/23 19:14
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	1		03/21/23 19:14

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 19:14
Container ID: 1230750009-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.794 g
Prep Extract Vol: 5 mL

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Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
2-Methylnaphthalene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Acenaphthene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Acenaphthylene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Anthracene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Benzo(a)Anthracene	8.62	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Benzo[a]pyrene	10.8	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Benzo[b]Fluoranthene	13.1	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Benzo[g,h,i]perylene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Benzo[k]fluoranthene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Chrysene	10.8	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Dibenzo[a,h]anthracene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Fluoranthene	21.3	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Fluorene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Indeno[1,2,3-c,d] pyrene	14.4	U	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Naphthalene	11.5	U	23.0	5.75	11.5	ug/kg	1		03/06/23 18:06
Phenanthrene	14.7	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Pyrene	20.9	J	28.7	7.18	14.4	ug/kg	1		03/06/23 18:06
Surrogates									
2-Methylnaphthalene-d10 (surr)	86.4		58-103			%	1		03/06/23 18:06
Fluoranthene-d10 (surr)	87.3		54-113			%	1		03/06/23 18:06

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 18:06
Container ID: 1230750009-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.818 g
Prep Extract Vol: 5 mL

Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	18.1	J	23.3	10.5	11.7	mg/kg	1		03/02/23 20:01
Surrogates									
5a Androstane (surr)	98.7		50-150			%	1		03/02/23 20:01

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/02/23 20:01
Container ID: 1230750009-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.066 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	58.0	U	116	50.0	58.0	mg/kg	1		03/02/23 20:01
Surrogates									
n-Triacontane-d62 (surr)	101		50-150			%	1		03/02/23 20:01

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/02/23 20:01
Container ID: 1230750009-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.066 g
Prep Extract Vol: 5 mL

Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.85	J	4.02	1.21	2.01	mg/kg	1		02/27/23 22:08
Surrogates									
4-Bromofluorobenzene (surr)	95.3		50-150			%	1		02/27/23 22:08

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 22:08
Container ID: 1230750009-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 16:10
Prep Initial Wt./Vol.: 45.54 g
Prep Extract Vol: 31.459 mL

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Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	16.1	U	32.2	9.98	16.1	ug/kg	1		02/27/23 19:21
1,1,1-Trichloroethane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,1,2,2-Tetrachloroethane	1.61	U	3.22	0.998	1.61	ug/kg	1		02/27/23 19:21
1,1,2-Trichloroethane	0.805	U	1.61	0.805	0.805	ug/kg	1		02/27/23 19:21
1,1-Dichloroethane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,1-Dichloroethene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,1-Dichloropropene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,2,3-Trichlorobenzene	80.5	U	161	48.3	80.5	ug/kg	1		02/27/23 19:21
1,2,3-Trichloropropane	1.61	U	3.22	0.998	1.61	ug/kg	1		02/27/23 19:21
1,2,4-Trichlorobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,2,4-Trimethylbenzene	80.5	U	161	48.3	80.5	ug/kg	1		02/27/23 19:21
1,2-Dibromo-3-chloropropane	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
1,2-Dibromoethane	1.21	U	2.41	1.21	1.21	ug/kg	1		02/27/23 19:21
1,2-Dichlorobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,2-Dichloroethane	1.61	U	3.22	1.13	1.61	ug/kg	1		02/27/23 19:21
1,2-Dichloropropane	8.05	U	16.1	8.05	8.05	ug/kg	1		02/27/23 19:21
1,3,5-Trimethylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,3-Dichlorobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
1,3-Dichloropropane	8.05	U	16.1	4.99	8.05	ug/kg	1		02/27/23 19:21
1,4-Dichlorobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
2,2-Dichloropropane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
2-Butanone (MEK)	201	U	402	126	201	ug/kg	1		02/27/23 19:21
2-Chlorotoluene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
2-Hexanone	96.5	U	193	96.6	96.5	ug/kg	1		02/27/23 19:21
4-Chlorotoluene	16.1	U	32.2	16.1	16.1	ug/kg	1		02/27/23 19:21
4-Isopropyltoluene	64.5	U	129	64.4	64.5	ug/kg	1		02/27/23 19:21
4-Methyl-2-pentanone (MIBK)	201	U	402	126	201	ug/kg	1		02/27/23 19:21
Acetone	201	U	402	177	201	ug/kg	1		02/27/23 19:21
Benzene	10.1	U	20.1	6.28	10.1	ug/kg	1		02/27/23 19:21
Bromobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Bromochloromethane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Bromodichloromethane	1.61	U	3.22	0.998	1.61	ug/kg	1		02/27/23 19:21
Bromoform	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Bromomethane	16.1	U	32.2	12.9	16.1	ug/kg	1		02/27/23 19:21
Carbon disulfide	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
Carbon tetrachloride	10.1	U	20.1	6.28	10.1	ug/kg	1		02/27/23 19:21
Chlorobenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21

Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	161	U	322	99.8	161	ug/kg	1		02/27/23 19:21
Chloroform	4.83	U	9.66	4.83	4.83	ug/kg	1		02/27/23 19:21
Chloromethane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
cis-1,2-Dichloroethene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
cis-1,3-Dichloropropene	10.1	U	20.1	6.28	10.1	ug/kg	1		02/27/23 19:21
Dibromochloromethane	4.03	U	8.05	2.41	4.03	ug/kg	1		02/27/23 19:21
Dibromomethane	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Dichlorodifluoromethane	80.5	U	161	48.3	80.5	ug/kg	1		02/27/23 19:21
Ethylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Freon-113	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
Hexachlorobutadiene	16.1	U	32.2	9.98	16.1	ug/kg	1		02/27/23 19:21
Isopropylbenzene (Cumene)	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Methylene chloride	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
Methyl-t-butyl ether	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
Naphthalene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
n-Butylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
n-Propylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
o-Xylene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
P & M -Xylene	40.3	U	80.5	24.1	40.3	ug/kg	1		02/27/23 19:21
sec-Butylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Styrene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
tert-Butylbenzene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
Tetrachloroethene	10.1	U	20.1	6.28	10.1	ug/kg	1		02/27/23 19:21
Toluene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
trans-1,2-Dichloroethene	20.1	U	40.2	12.6	20.1	ug/kg	1		02/27/23 19:21
trans-1,3-Dichloropropene	10.1	U	20.1	6.28	10.1	ug/kg	1		02/27/23 19:21
Trichloroethene	8.05	U	16.1	5.15	8.05	ug/kg	1		02/27/23 19:21
Trichlorofluoromethane	40.3	U	80.5	24.1	40.3	ug/kg	1		02/27/23 19:21
Vinyl acetate	80.5	U	161	49.9	80.5	ug/kg	1		02/27/23 19:21
Vinyl chloride	0.645	U	1.29	0.402	0.645	ug/kg	1		02/27/23 19:21
Xylenes (total)	60.5	U	121	36.7	60.5	ug/kg	1		02/27/23 19:21
Surrogates									
1,2-Dichloroethane-D4 (surr)	98.7		71-136			%	1		02/27/23 19:21
4-Bromofluorobenzene (surr)	92.3		55-151			%	1		02/27/23 19:21
Toluene-d8 (surr)	97.4		85-116			%	1		02/27/23 19:21

Print Date: 03/29/2023 8:35:31AM

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Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750009
Lab Project ID: 1230750

Collection Date: 02/23/23 16:10
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 19:21
Container ID: 1230750009-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 16:10
Prep Initial Wt./Vol.: 45.54 g
Prep Extract Vol: 31.459 mL

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Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Aroclor-1221	57.5	U	115	28.6	57.5	ug/kg	1		03/21/23 19:26
Aroclor-1232	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Aroclor-1242	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Aroclor-1248	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Aroclor-1254	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Aroclor-1260	28.6	U	57.3	14.3	28.6	ug/kg	1		03/21/23 19:26
Surrogates									
Decachlorobiphenyl (surr)	85		60-125			%	1		03/21/23 19:26

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 19:26
Container ID: 1230750010-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.684 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
2-Methylnaphthalene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Acenaphthene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Acenaphthylene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Anthracene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Benzo(a)Anthracene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Benzo[a]pyrene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Benzo[b]Fluoranthene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Benzo[g,h,i]perylene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Benzo[k]fluoranthene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Chrysene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Dibenzo[a,h]anthracene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Fluoranthene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Fluorene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Indeno[1,2,3-c,d] pyrene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Naphthalene	57.5	U	115	28.7	57.5	ug/kg	5		03/06/23 18:22
Phenanthrene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Pyrene	71.5	U	143	35.9	71.5	ug/kg	5		03/06/23 18:22
Surrogates									
2-Methylnaphthalene-d10 (surr)	78.3		58-103			%	5		03/06/23 18:22
Fluoranthene-d10 (surr)	80.2		54-113			%	5		03/06/23 18:22

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 18:22
Container ID: 1230750010-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.641 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	103		92.1	41.4	46.0	mg/kg	4		03/02/23 21:28
Surrogates									
5a Androstane (surr)	106		50-150			%	4		03/02/23 21:28

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/02/23 21:28
Container ID: 1230750010-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.107 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	701		460	198	230	mg/kg	4		03/02/23 21:28
Surrogates									
n-Triacontane-d62 (surr)	112		50-150			%	4		03/02/23 21:28

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/02/23 21:28
Container ID: 1230750010-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.107 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.00	J	2.99	0.898	1.50	mg/kg	1		02/27/23 22:26
Surrogates									
4-Bromofluorobenzene (surr)	92.2		50-150			%	1		02/27/23 22:26

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 22:26
Container ID: 1230750010-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:20
Prep Initial Wt./Vol.: 65.107 g
Prep Extract Vol: 33.7415 mL

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	11.9	U	23.9	7.42	11.9	ug/kg	1		02/27/23 19:39
1,1,1-Trichloroethane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,1,2,2-Tetrachloroethane	1.20	U	2.39	0.742	1.20	ug/kg	1		02/27/23 19:39
1,1,2-Trichloroethane	0.600	U	1.20	0.599	0.600	ug/kg	1		02/27/23 19:39
1,1-Dichloroethane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,1-Dichloroethene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,1-Dichloropropene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,2,3-Trichlorobenzene	60.0	U	120	35.9	60.0	ug/kg	1		02/27/23 19:39
1,2,3-Trichloropropane	1.20	U	2.39	0.742	1.20	ug/kg	1		02/27/23 19:39
1,2,4-Trichlorobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,2,4-Trimethylbenzene	60.0	U	120	35.9	60.0	ug/kg	1		02/27/23 19:39
1,2-Dibromo-3-chloropropane	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
1,2-Dibromoethane	0.900	U	1.80	0.898	0.900	ug/kg	1		02/27/23 19:39
1,2-Dichlorobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,2-Dichloroethane	1.20	U	2.39	0.838	1.20	ug/kg	1		02/27/23 19:39
1,2-Dichloropropane	6.00	U	12.0	5.99	6.00	ug/kg	1		02/27/23 19:39
1,3,5-Trimethylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,3-Dichlorobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
1,3-Dichloropropane	6.00	U	12.0	3.71	6.00	ug/kg	1		02/27/23 19:39
1,4-Dichlorobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
2,2-Dichloropropane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
2-Butanone (MEK)	150	U	299	93.4	150	ug/kg	1		02/27/23 19:39
2-Chlorotoluene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
2-Hexanone	72.0	U	144	71.8	72.0	ug/kg	1		02/27/23 19:39
4-Chlorotoluene	11.9	U	23.9	12.0	11.9	ug/kg	1		02/27/23 19:39
4-Isopropyltoluene	47.9	U	95.8	47.9	47.9	ug/kg	1		02/27/23 19:39
4-Methyl-2-pentanone (MIBK)	150	U	299	93.4	150	ug/kg	1		02/27/23 19:39
Acetone	150	U	299	132	150	ug/kg	1		02/27/23 19:39
Benzene	7.50	U	15.0	4.67	7.50	ug/kg	1		02/27/23 19:39
Bromobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Bromochloromethane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Bromodichloromethane	1.20	U	2.39	0.742	1.20	ug/kg	1		02/27/23 19:39
Bromoform	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Bromomethane	11.9	U	23.9	9.58	11.9	ug/kg	1		02/27/23 19:39
Carbon disulfide	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
Carbon tetrachloride	7.50	U	15.0	4.67	7.50	ug/kg	1		02/27/23 19:39
Chlorobenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	120	U	239	74.2	120	ug/kg	1		02/27/23 19:39
Chloroform	3.59	U	7.18	3.59	3.59	ug/kg	1		02/27/23 19:39
Chloromethane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
cis-1,2-Dichloroethene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
cis-1,3-Dichloropropene	7.50	U	15.0	4.67	7.50	ug/kg	1		02/27/23 19:39
Dibromochloromethane	3.00	U	5.99	1.80	3.00	ug/kg	1		02/27/23 19:39
Dibromomethane	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Dichlorodifluoromethane	60.0	U	120	35.9	60.0	ug/kg	1		02/27/23 19:39
Ethylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Freon-113	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
Hexachlorobutadiene	11.9	U	23.9	7.42	11.9	ug/kg	1		02/27/23 19:39
Isopropylbenzene (Cumene)	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Methylene chloride	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
Methyl-t-butyl ether	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
Naphthalene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
n-Butylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
n-Propylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
o-Xylene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
P & M -Xylene	29.9	U	59.9	18.0	29.9	ug/kg	1		02/27/23 19:39
sec-Butylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Styrene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
tert-Butylbenzene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
Tetrachloroethene	7.50	U	15.0	4.67	7.50	ug/kg	1		02/27/23 19:39
Toluene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
trans-1,2-Dichloroethene	14.9	U	29.9	9.34	14.9	ug/kg	1		02/27/23 19:39
trans-1,3-Dichloropropene	7.50	U	15.0	4.67	7.50	ug/kg	1		02/27/23 19:39
Trichloroethene	6.00	U	12.0	3.83	6.00	ug/kg	1		02/27/23 19:39
Trichlorofluoromethane	29.9	U	59.9	18.0	29.9	ug/kg	1		02/27/23 19:39
Vinyl acetate	60.0	U	120	37.1	60.0	ug/kg	1		02/27/23 19:39
Vinyl chloride	0.479	U	0.958	0.299	0.479	ug/kg	1		02/27/23 19:39
Xylenes (total)	44.9	U	89.8	27.3	44.9	ug/kg	1		02/27/23 19:39
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		02/27/23 19:39
4-Bromofluorobenzene (surr)	90.5		55-151			%	1		02/27/23 19:39
Toluene-d8 (surr)	99.2		85-116			%	1		02/27/23 19:39

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750010
Lab Project ID: 1230750

Collection Date: 02/23/23 14:20
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 19:39
Container ID: 1230750010-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:20
Prep Initial Wt./Vol.: 65.107 g
Prep Extract Vol: 33.7415 mL

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Aroclor-1221	61.5	U	123	30.9	61.5	ug/kg	1		03/21/23 19:37
Aroclor-1232	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Aroclor-1242	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Aroclor-1248	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Aroclor-1254	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Aroclor-1260	30.9	U	61.7	15.4	30.9	ug/kg	1		03/21/23 19:37
Surrogates									
Decachlorobiphenyl (surr)	80		60-125			%	1		03/21/23 19:37

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Analyst: BRP
Analytical Date/Time: 03/21/23 19:37
Container ID: 1230750011-A

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 02/27/23 17:05
Prep Initial Wt./Vol.: 22.52 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
2-Methylnaphthalene	8.07	J	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Acenaphthene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Acenaphthylene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Anthracene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Benzo(a)Anthracene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Benzo[a]pyrene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Benzo[b]Fluoranthene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Benzo[g,h,i]perylene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Benzo[k]fluoranthene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Chrysene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Dibenzo[a,h]anthracene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Fluoranthene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Fluorene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Indeno[1,2,3-c,d] pyrene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Naphthalene	8.04	J	24.5	6.13	12.3	ug/kg	1		03/06/23 18:38
Phenanthrene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Pyrene	15.4	U	30.7	7.67	15.4	ug/kg	1		03/06/23 18:38
Surrogates									
2-Methylnaphthalene-d10 (surr)	78.8		58-103			%	1		03/06/23 18:38
Fluoranthene-d10 (surr)	79.2		54-113			%	1		03/06/23 18:38

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Analyst: NGG
Analytical Date/Time: 03/06/23 18:38
Container ID: 1230750011-A

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 03/02/23 13:06
Prep Initial Wt./Vol.: 22.668 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	15.7	J	24.7	11.1	12.4	mg/kg	1		03/02/23 20:11
Surrogates									
5a Androstane (surr)	91.5		50-150			%	1		03/02/23 20:11

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK102
Analyst: HMW
Analytical Date/Time: 03/02/23 20:11
Container ID: 1230750011-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.002 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	62.0	U	124	53.1	62.0	mg/kg	1		03/02/23 20:11
Surrogates									
n-Triacontane-d62 (surr)	93.9		50-150			%	1		03/02/23 20:11

Batch Information

Analytical Batch: XFC16458
Analytical Method: AK103
Analyst: HMW
Analytical Date/Time: 03/02/23 20:11
Container ID: 1230750011-A

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 02/28/23 15:27
Prep Initial Wt./Vol.: 30.002 g
Prep Extract Vol: 5 mL

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.28	J	3.48	1.04	1.74	mg/kg	1		02/27/23 22:45
Surrogates									
4-Bromofluorobenzene (surr)	103		50-150			%	1		02/27/23 22:45

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 22:45
Container ID: 1230750011-B

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:50
Prep Initial Wt./Vol.: 67.066 g
Prep Extract Vol: 37.7865 mL

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	13.9	U	27.8	8.63	13.9	ug/kg	1		02/27/23 19:57
1,1,1-Trichloroethane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,1,2,2-Tetrachloroethane	1.39	U	2.78	0.863	1.39	ug/kg	1		02/27/23 19:57
1,1,2-Trichloroethane	0.695	U	1.39	0.696	0.695	ug/kg	1		02/27/23 19:57
1,1-Dichloroethane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,1-Dichloroethene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,1-Dichloropropene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,2,3-Trichlorobenzene	69.5	U	139	41.8	69.5	ug/kg	1		02/27/23 19:57
1,2,3-Trichloropropane	1.39	U	2.78	0.863	1.39	ug/kg	1		02/27/23 19:57
1,2,4-Trichlorobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,2,4-Trimethylbenzene	69.5	U	139	41.8	69.5	ug/kg	1		02/27/23 19:57
1,2-Dibromo-3-chloropropane	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
1,2-Dibromoethane	1.04	U	2.09	1.04	1.04	ug/kg	1		02/27/23 19:57
1,2-Dichlorobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,2-Dichloroethane	1.39	U	2.78	0.975	1.39	ug/kg	1		02/27/23 19:57
1,2-Dichloropropane	6.95	U	13.9	6.96	6.95	ug/kg	1		02/27/23 19:57
1,3,5-Trimethylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,3-Dichlorobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
1,3-Dichloropropane	6.95	U	13.9	4.32	6.95	ug/kg	1		02/27/23 19:57
1,4-Dichlorobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
2,2-Dichloropropane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
2-Butanone (MEK)	174	U	348	109	174	ug/kg	1		02/27/23 19:57
2-Chlorotoluene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
2-Hexanone	83.5	U	167	83.5	83.5	ug/kg	1		02/27/23 19:57
4-Chlorotoluene	13.9	U	27.8	13.9	13.9	ug/kg	1		02/27/23 19:57
4-Isopropyltoluene	55.5	U	111	55.7	55.5	ug/kg	1		02/27/23 19:57
4-Methyl-2-pentanone (MIBK)	174	U	348	109	174	ug/kg	1		02/27/23 19:57
Acetone	174	U	348	153	174	ug/kg	1		02/27/23 19:57
Benzene	8.70	U	17.4	5.43	8.70	ug/kg	1		02/27/23 19:57
Bromobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Bromochloromethane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Bromodichloromethane	1.39	U	2.78	0.863	1.39	ug/kg	1		02/27/23 19:57
Bromoform	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Bromomethane	13.9	U	27.8	11.1	13.9	ug/kg	1		02/27/23 19:57
Carbon disulfide	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
Carbon tetrachloride	8.70	U	17.4	5.43	8.70	ug/kg	1		02/27/23 19:57
Chlorobenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	139	U	278	86.3	139	ug/kg	1		02/27/23 19:57
Chloroform	4.17	U	8.35	4.18	4.17	ug/kg	1		02/27/23 19:57
Chloromethane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
cis-1,2-Dichloroethene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
cis-1,3-Dichloropropene	8.70	U	17.4	5.43	8.70	ug/kg	1		02/27/23 19:57
Dibromochloromethane	3.48	U	6.96	2.09	3.48	ug/kg	1		02/27/23 19:57
Dibromomethane	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Dichlorodifluoromethane	69.5	U	139	41.8	69.5	ug/kg	1		02/27/23 19:57
Ethylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Freon-113	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
Hexachlorobutadiene	13.9	U	27.8	8.63	13.9	ug/kg	1		02/27/23 19:57
Isopropylbenzene (Cumene)	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Methylene chloride	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
Methyl-t-butyl ether	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
Naphthalene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
n-Butylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
n-Propylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
o-Xylene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
P & M -Xylene	34.8	U	69.6	20.9	34.8	ug/kg	1		02/27/23 19:57
sec-Butylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Styrene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
tert-Butylbenzene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
Tetrachloroethene	8.70	U	17.4	5.43	8.70	ug/kg	1		02/27/23 19:57
Toluene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
trans-1,2-Dichloroethene	17.4	U	34.8	10.9	17.4	ug/kg	1		02/27/23 19:57
trans-1,3-Dichloropropene	8.70	U	17.4	5.43	8.70	ug/kg	1		02/27/23 19:57
Trichloroethene	5.73	J	13.9	4.46	6.95	ug/kg	1		02/27/23 19:57
Trichlorofluoromethane	34.8	U	69.6	20.9	34.8	ug/kg	1		02/27/23 19:57
Vinyl acetate	69.5	U	139	43.2	69.5	ug/kg	1		02/27/23 19:57
Vinyl chloride	0.555	U	1.11	0.348	0.555	ug/kg	1		02/27/23 19:57
Xylenes (total)	52.0	U	104	31.7	52.0	ug/kg	1		02/27/23 19:57
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		02/27/23 19:57
4-Bromofluorobenzene (surr)	106		55-151			%	1		02/27/23 19:57
Toluene-d8 (surr)	97.8		85-116			%	1		02/27/23 19:57

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750011
Lab Project ID: 1230750

Collection Date: 02/23/23 14:50
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):80.9
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 19:57
Container ID: 1230750011-B

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:50
Prep Initial Wt./Vol.: 67.066 g
Prep Extract Vol: 37.7865 mL

Results of **108906-FB1**

Client Sample ID: **108906-FB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750012
Lab Project ID: 1230750

Collection Date: 02/23/23 14:45
Received Date: 02/24/23 15:07
Matrix: Solid/Soil (Wet Weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.64	J	2.54	0.763	1.27	mg/kg	1		02/27/23 16:50
Surrogates									
4-Bromofluorobenzene (surr)	89.1		50-150			%	1		02/27/23 16:50

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 16:50
Container ID: 1230750012-A

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:45
Prep Initial Wt./Vol.: 49.176 g
Prep Extract Vol: 25 mL

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-FB1**

Client Sample ID: **108906-FB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750012
Lab Project ID: 1230750

Collection Date: 02/23/23 14:45
Received Date: 02/24/23 15:07
Matrix: Solid/Soil (Wet Weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.2	U	20.3	6.30	10.2	ug/kg	1		02/27/23 17:17
1,1,1-Trichloroethane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,1,2,2-Tetrachloroethane	1.01	U	2.03	0.630	1.01	ug/kg	1		02/27/23 17:17
1,1,2-Trichloroethane	0.510	U	1.02	0.508	0.510	ug/kg	1		02/27/23 17:17
1,1-Dichloroethane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,1-Dichloroethene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,1-Dichloropropene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,2,3-Trichlorobenzene	51.0	U	102	30.5	51.0	ug/kg	1		02/27/23 17:17
1,2,3-Trichloropropane	1.01	U	2.03	0.630	1.01	ug/kg	1		02/27/23 17:17
1,2,4-Trichlorobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,2,4-Trimethylbenzene	51.0	U	102	30.5	51.0	ug/kg	1		02/27/23 17:17
1,2-Dibromo-3-chloropropane	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
1,2-Dibromoethane	0.765	U	1.53	0.763	0.765	ug/kg	1		02/27/23 17:17
1,2-Dichlorobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,2-Dichloroethane	1.01	U	2.03	0.712	1.01	ug/kg	1		02/27/23 17:17
1,2-Dichloropropane	5.10	U	10.2	5.08	5.10	ug/kg	1		02/27/23 17:17
1,3,5-Trimethylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,3-Dichlorobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
1,3-Dichloropropane	5.10	U	10.2	3.15	5.10	ug/kg	1		02/27/23 17:17
1,4-Dichlorobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
2,2-Dichloropropane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
2-Butanone (MEK)	127	U	254	79.3	127	ug/kg	1		02/27/23 17:17
2-Chlorotoluene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
2-Hexanone	61.0	U	122	61.0	61.0	ug/kg	1		02/27/23 17:17
4-Chlorotoluene	10.2	U	20.3	10.2	10.2	ug/kg	1		02/27/23 17:17
4-Isopropyltoluene	40.6	U	81.3	40.7	40.6	ug/kg	1		02/27/23 17:17
4-Methyl-2-pentanone (MIBK)	127	U	254	79.3	127	ug/kg	1		02/27/23 17:17
Acetone	127	U	254	112	127	ug/kg	1		02/27/23 17:17
Benzene	6.35	U	12.7	3.97	6.35	ug/kg	1		02/27/23 17:17
Bromobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Bromochloromethane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Bromodichloromethane	1.01	U	2.03	0.630	1.01	ug/kg	1		02/27/23 17:17
Bromoform	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Bromomethane	10.2	U	20.3	8.13	10.2	ug/kg	1		02/27/23 17:17
Carbon disulfide	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
Carbon tetrachloride	6.35	U	12.7	3.97	6.35	ug/kg	1		02/27/23 17:17
Chlorobenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17

Results of **108906-FB1**

Client Sample ID: **108906-FB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750012
Lab Project ID: 1230750

Collection Date: 02/23/23 14:45
Received Date: 02/24/23 15:07
Matrix: Solid/Soil (Wet Weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	102	U	203	63.0	102	ug/kg	1		02/27/23 17:17
Chloroform	3.05	U	6.10	3.05	3.05	ug/kg	1		02/27/23 17:17
Chloromethane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
cis-1,2-Dichloroethene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
cis-1,3-Dichloropropene	6.35	U	12.7	3.97	6.35	ug/kg	1		02/27/23 17:17
Dibromochloromethane	2.54	U	5.08	1.53	2.54	ug/kg	1		02/27/23 17:17
Dibromomethane	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Dichlorodifluoromethane	51.0	U	102	30.5	51.0	ug/kg	1		02/27/23 17:17
Ethylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Freon-113	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
Hexachlorobutadiene	10.2	U	20.3	6.30	10.2	ug/kg	1		02/27/23 17:17
Isopropylbenzene (Cumene)	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Methylene chloride	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
Methyl-t-butyl ether	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
Naphthalene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
n-Butylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
n-Propylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
o-Xylene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
P & M -Xylene	25.4	U	50.8	15.3	25.4	ug/kg	1		02/27/23 17:17
sec-Butylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Styrene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
tert-Butylbenzene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
Tetrachloroethene	6.35	U	12.7	3.97	6.35	ug/kg	1		02/27/23 17:17
Toluene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
trans-1,2-Dichloroethene	12.7	U	25.4	7.93	12.7	ug/kg	1		02/27/23 17:17
trans-1,3-Dichloropropene	6.35	U	12.7	3.97	6.35	ug/kg	1		02/27/23 17:17
Trichloroethene	5.10	U	10.2	3.25	5.10	ug/kg	1		02/27/23 17:17
Trichlorofluoromethane	25.4	U	50.8	15.3	25.4	ug/kg	1		02/27/23 17:17
Vinyl acetate	51.0	U	102	31.5	51.0	ug/kg	1		02/27/23 17:17
Vinyl chloride	0.406	U	0.813	0.254	0.406	ug/kg	1		02/27/23 17:17
Xylenes (total)	38.1	U	76.3	23.2	38.1	ug/kg	1		02/27/23 17:17
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		71-136			%	1		02/27/23 17:17
4-Bromofluorobenzene (surr)	91.2		55-151			%	1		02/27/23 17:17
Toluene-d8 (surr)	98.8		85-116			%	1		02/27/23 17:17

Results of **108906-FB1**

Client Sample ID: **108906-FB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750012
Lab Project ID: 1230750

Collection Date: 02/23/23 14:45
Received Date: 02/24/23 15:07
Matrix: Solid/Soil (Wet Weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 17:17
Container ID: 1230750012-A

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 14:45
Prep Initial Wt./Vol.: 49.176 g
Prep Extract Vol: 25 mL

Results of **108906-TB1**

Client Sample ID: **108906-TB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750013
Lab Project ID: 1230750

Collection Date: 02/23/23 17:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.87	J	2.56	0.768	1.28	mg/kg	1		02/27/23 17:08
Surrogates									
4-Bromofluorobenzene (surr)	94.9		50-150			%	1		02/27/23 17:08

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 02/27/23 17:08
Container ID: 1230750013-A

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 02/23/23 17:00
Prep Initial Wt./Vol.: 48.816 g
Prep Extract Vol: 25 mL

Results of **108906-TB1**

Client Sample ID: **108906-TB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750013
Lab Project ID: 1230750

Collection Date: 02/23/23 17:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.3	U	20.5	6.35	10.3	ug/kg	1		02/27/23 17:35
1,1,1-Trichloroethane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,1,2,2-Tetrachloroethane	1.02	U	2.05	0.635	1.02	ug/kg	1		02/27/23 17:35
1,1,2-Trichloroethane	0.510	U	1.02	0.512	0.510	ug/kg	1		02/27/23 17:35
1,1-Dichloroethane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,1-Dichloroethene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,1-Dichloropropene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,2,3-Trichlorobenzene	51.0	U	102	30.7	51.0	ug/kg	1		02/27/23 17:35
1,2,3-Trichloropropane	1.02	U	2.05	0.635	1.02	ug/kg	1		02/27/23 17:35
1,2,4-Trichlorobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,2,4-Trimethylbenzene	51.0	U	102	30.7	51.0	ug/kg	1		02/27/23 17:35
1,2-Dibromo-3-chloropropane	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
1,2-Dibromoethane	0.770	U	1.54	0.768	0.770	ug/kg	1		02/27/23 17:35
1,2-Dichlorobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,2-Dichloroethane	1.02	U	2.05	0.717	1.02	ug/kg	1		02/27/23 17:35
1,2-Dichloropropane	5.10	U	10.2	5.12	5.10	ug/kg	1		02/27/23 17:35
1,3,5-Trimethylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,3-Dichlorobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
1,3-Dichloropropane	5.10	U	10.2	3.18	5.10	ug/kg	1		02/27/23 17:35
1,4-Dichlorobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
2,2-Dichloropropane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
2-Butanone (MEK)	128	U	256	79.9	128	ug/kg	1		02/27/23 17:35
2-Chlorotoluene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
2-Hexanone	61.5	U	123	61.5	61.5	ug/kg	1		02/27/23 17:35
4-Chlorotoluene	10.3	U	20.5	10.2	10.3	ug/kg	1		02/27/23 17:35
4-Isopropyltoluene	41.0	U	81.9	41.0	41.0	ug/kg	1		02/27/23 17:35
4-Methyl-2-pentanone (MIBK)	128	U	256	79.9	128	ug/kg	1		02/27/23 17:35
Acetone	128	U	256	113	128	ug/kg	1		02/27/23 17:35
Benzene	6.40	U	12.8	3.99	6.40	ug/kg	1		02/27/23 17:35
Bromobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Bromochloromethane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Bromodichloromethane	1.02	U	2.05	0.635	1.02	ug/kg	1		02/27/23 17:35
Bromoform	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Bromomethane	10.3	U	20.5	8.19	10.3	ug/kg	1		02/27/23 17:35
Carbon disulfide	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
Carbon tetrachloride	6.40	U	12.8	3.99	6.40	ug/kg	1		02/27/23 17:35
Chlorobenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35

Results of **108906-TB1**

Client Sample ID: **108906-TB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750013
Lab Project ID: 1230750

Collection Date: 02/23/23 17:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	103	U	205	63.5	103	ug/kg	1		02/27/23 17:35
Chloroform	3.08	U	6.15	3.07	3.08	ug/kg	1		02/27/23 17:35
Chloromethane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
cis-1,2-Dichloroethene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
cis-1,3-Dichloropropene	6.40	U	12.8	3.99	6.40	ug/kg	1		02/27/23 17:35
Dibromochloromethane	2.56	U	5.12	1.54	2.56	ug/kg	1		02/27/23 17:35
Dibromomethane	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Dichlorodifluoromethane	51.0	U	102	30.7	51.0	ug/kg	1		02/27/23 17:35
Ethylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Freon-113	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
Hexachlorobutadiene	10.3	U	20.5	6.35	10.3	ug/kg	1		02/27/23 17:35
Isopropylbenzene (Cumene)	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Methylene chloride	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
Methyl-t-butyl ether	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
Naphthalene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
n-Butylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
n-Propylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
o-Xylene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
P & M -Xylene	25.6	U	51.2	15.4	25.6	ug/kg	1		02/27/23 17:35
sec-Butylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Styrene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
tert-Butylbenzene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
Tetrachloroethene	6.40	U	12.8	3.99	6.40	ug/kg	1		02/27/23 17:35
Toluene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
trans-1,2-Dichloroethene	12.8	U	25.6	7.99	12.8	ug/kg	1		02/27/23 17:35
trans-1,3-Dichloropropene	6.40	U	12.8	3.99	6.40	ug/kg	1		02/27/23 17:35
Trichloroethene	5.10	U	10.2	3.28	5.10	ug/kg	1		02/27/23 17:35
Trichlorofluoromethane	25.6	U	51.2	15.4	25.6	ug/kg	1		02/27/23 17:35
Vinyl acetate	51.0	U	102	31.8	51.0	ug/kg	1		02/27/23 17:35
Vinyl chloride	0.409	U	0.819	0.256	0.409	ug/kg	1		02/27/23 17:35
Xylenes (total)	38.4	U	76.8	23.4	38.4	ug/kg	1		02/27/23 17:35
Surrogates									
1,2-Dichloroethane-D4 (surr)	103		71-136			%	1		02/27/23 17:35
4-Bromofluorobenzene (surr)	93.4		55-151			%	1		02/27/23 17:35
Toluene-d8 (surr)	98.9		85-116			%	1		02/27/23 17:35

Print Date: 03/29/2023 8:35:31AM

J flagging is activated

Results of **108906-TB1**

Client Sample ID: **108906-TB1**
Client Project ID: **ANC Fire Training Pit**
Lab Sample ID: 1230750013
Lab Project ID: 1230750

Collection Date: 02/23/23 17:00
Received Date: 02/24/23 15:07
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 02/27/23 17:35
Container ID: 1230750013-A

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 02/23/23 17:00
Prep Initial Wt./Vol.: 48.816 g
Prep Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1851843 [SPT/11730]
Blank Lab ID: 1704898

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	LOD	Units
Total Solids	100				%

Batch Information

Analytical Batch: SPT11730
Analytical Method: SM21 2540G
Instrument:
Analyst: JY
Analytical Date/Time: 2/27/2023 6:52:00PM

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Duplicate Sample Summary

Original Sample ID: 1230750001
Duplicate Sample ID: 1704899

Analysis Date: 02/27/2023 18:52
Matrix: Soil/Solid (dry weight)

QC for Samples:

1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	88.6	89.9	%	1.40	(< 15)

Batch Information

Analytical Batch: SPT11730
Analytical Method: SM21 2540G
Instrument:
Analyst: JY

Print Date: 03/29/2023 8:35:38AM

Duplicate Sample Summary

Original Sample ID: 1230753001
Duplicate Sample ID: 1704900

Analysis Date: 02/27/2023 18:52
Matrix: Soil/Solid (dry weight)

QC for Samples:

1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	23.0	22.4	%	2.60	(< 15)

Batch Information

Analytical Batch: SPT11730
Analytical Method: SM21 2540G
Instrument:
Analyst: JY

Print Date: 03/29/2023 8:35:38AM

Method Blank

Blank ID: MB for HBN 1851833 [VXX/39650]
Blank Lab ID: 1704879

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	2.25J	2.50	0.750	1.25	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	82.4	50-150		0	%

Batch Information

Analytical Batch: VFC16393
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: JY
Analytical Date/Time: 2/27/2023 3:25:00PM

Prep Batch: VXX39650
Prep Method: SW5035A
Prep Date/Time: 2/27/2023 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [VXX39650]
Blank Spike Lab ID: 1704880
Date Analyzed: 02/27/2023 14:47

Spike Duplicate ID: LCSD for HBN 1230750 [VXX39650]
Spike Duplicate Lab ID: 1704881
Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	14.4	116	12.5	14.2	114	(60-120)	1.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		85	1.25		88	(50-150)	3.90	

Batch Information

Analytical Batch: **VFC16393**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **JY**

Prep Batch: **VXX39650**
Prep Method: **SW5035A**
Prep Date/Time: **02/27/2023 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1851848 [VXX/39654]
Blank Lab ID: 1704922

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	10.0	ug/kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	12.5	ug/kg
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	1.00	ug/kg
1,1,2-Trichloroethane	0.500U	1.00	0.500	0.500	ug/kg
1,1-Dichloroethane	12.5U	25.0	7.80	12.5	ug/kg
1,1-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
1,1-Dichloropropene	12.5U	25.0	7.80	12.5	ug/kg
1,2,3-Trichlorobenzene	50.0U	100	30.0	50.0	ug/kg
1,2,3-Trichloropropane	1.00U	2.00	0.620	1.00	ug/kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,2,4-Trimethylbenzene	50.0U	100	30.0	50.0	ug/kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	50.0	ug/kg
1,2-Dibromoethane	0.750U	1.50	0.750	0.750	ug/kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,2-Dichloroethane	1.00U	2.00	0.700	1.00	ug/kg
1,2-Dichloropropane	5.00U	10.0	5.00	5.00	ug/kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	12.5	ug/kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,3-Dichloropropane	5.00U	10.0	3.10	5.00	ug/kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
2,2-Dichloropropane	12.5U	25.0	7.80	12.5	ug/kg
2-Butanone (MEK)	125U	250	78.0	125	ug/kg
2-Chlorotoluene	12.5U	25.0	7.80	12.5	ug/kg
2-Hexanone	60.0U	120	60.0	60.0	ug/kg
4-Chlorotoluene	10.0U	20.0	10.0	10.0	ug/kg
4-Isopropyltoluene	40.0U	80.0	40.0	40.0	ug/kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	125	ug/kg
Acetone	125U	250	110	125	ug/kg
Benzene	6.25U	12.5	3.90	6.25	ug/kg
Bromobenzene	12.5U	25.0	7.80	12.5	ug/kg
Bromochloromethane	12.5U	25.0	7.80	12.5	ug/kg
Bromodichloromethane	1.00U	2.00	0.620	1.00	ug/kg
Bromoform	12.5U	25.0	7.80	12.5	ug/kg
Bromomethane	10.0U	20.0	8.00	10.0	ug/kg
Carbon disulfide	50.0U	100	31.0	50.0	ug/kg
Carbon tetrachloride	6.25U	12.5	3.90	6.25	ug/kg
Chlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
Chloroethane	100U	200	62.0	100	ug/kg
Chloroform	3.00U	6.00	3.00	3.00	ug/kg
Chloromethane	12.5U	25.0	7.80	12.5	ug/kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	6.25	ug/kg

Method Blank

Blank ID: MB for HBN 1851848 [VXX/39654]
Blank Lab ID: 1704922

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromochloromethane	2.50U	5.00	1.50	2.50	ug/kg
Dibromomethane	12.5U	25.0	7.80	12.5	ug/kg
Dichlorodifluoromethane	50.0U	100	30.0	50.0	ug/kg
Ethylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Freon-113	50.0U	100	31.0	50.0	ug/kg
Hexachlorobutadiene	10.0U	20.0	6.20	10.0	ug/kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	12.5	ug/kg
Methylene chloride	50.0U	100	31.0	50.0	ug/kg
Methyl-t-butyl ether	50.0U	100	31.0	50.0	ug/kg
Naphthalene	12.5U	25.0	7.80	12.5	ug/kg
n-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
n-Propylbenzene	12.5U	25.0	7.80	12.5	ug/kg
o-Xylene	12.5U	25.0	7.80	12.5	ug/kg
P & M -Xylene	25.0U	50.0	15.0	25.0	ug/kg
sec-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Styrene	12.5U	25.0	7.80	12.5	ug/kg
tert-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Tetrachloroethene	6.25U	12.5	3.90	6.25	ug/kg
Toluene	12.5U	25.0	7.80	12.5	ug/kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	6.25	ug/kg
Trichloroethene	5.00U	10.0	3.20	5.00	ug/kg
Trichlorofluoromethane	25.0U	50.0	15.0	25.0	ug/kg
Vinyl acetate	50.0U	100	31.0	50.0	ug/kg
Vinyl chloride	0.400U	0.800	0.250	0.400	ug/kg
Xylenes (total)	37.5U	75.0	22.8	37.5	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	106	71-136		0	%
4-Bromofluorobenzene (surr)	109	55-151		0	%
Toluene-d8 (surr)	98.4	85-116		0	%

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: S.S
Analytical Date/Time: 2/27/2023 12:20:00PM

Prep Batch: VXX39654
Prep Method: SW5035A
Prep Date/Time: 2/27/2023 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [VXX39654]
Blank Spike Lab ID: 1704923
Date Analyzed: 02/27/2023 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	894	119	(78-125)
1,1,1-Trichloroethane	750	839	112	(73-130)
1,1,2,2-Tetrachloroethane	750	769	103	(70-124)
1,1,2-Trichloroethane	750	809	108	(78-121)
1,1-Dichloroethane	750	799	107	(76-125)
1,1-Dichloroethene	750	816	109	(70-131)
1,1-Dichloropropene	750	812	108	(76-125)
1,2,3-Trichlorobenzene	750	733	98	(66-130)
1,2,3-Trichloropropane	750	735	98	(73-125)
1,2,4-Trichlorobenzene	750	737	98	(67-129)
1,2,4-Trimethylbenzene	750	740	99	(75-123)
1,2-Dibromo-3-chloropropane	750	820	109	(61-132)
1,2-Dibromoethane	750	848	113	(78-122)
1,2-Dichlorobenzene	750	735	98	(78-121)
1,2-Dichloroethane	750	770	103	(73-128)
1,2-Dichloropropane	750	822	110	(76-123)
1,3,5-Trimethylbenzene	750	758	101	(73-124)
1,3-Dichlorobenzene	750	730	97	(77-121)
1,3-Dichloropropane	750	813	108	(77-121)
1,4-Dichlorobenzene	750	731	97	(75-120)
2,2-Dichloropropane	750	797	106	(67-133)
2-Butanone (MEK)	2250	2320	103	(51-148)
2-Chlorotoluene	750	736	98	(75-122)
2-Hexanone	2250	2480	110	(53-145)
4-Chlorotoluene	750	733	98	(72-124)
4-Isopropyltoluene	750	770	103	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2460	109	(65-135)
Acetone	2250	2130	95	(36-164)
Benzene	750	800	107	(77-121)
Bromobenzene	750	741	99	(78-121)
Bromochloromethane	750	806	107	(78-125)
Bromodichloromethane	750	912	122	(75-127)
Bromoform	750	918	122	(67-132)
Bromomethane	750	808	108	(53-143)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [VXX39654]
Blank Spike Lab ID: 1704923
Date Analyzed: 02/27/2023 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Carbon disulfide	1130	1390	123	(63-132)
Carbon tetrachloride	750	910	121	(70-135)
Chlorobenzene	750	804	107	(79-120)
Chloroethane	750	787	105	(59-139)
Chloroform	750	757	101	(78-123)
Chloromethane	750	688	92	(50-136)
cis-1,2-Dichloroethene	750	809	108	(77-123)
cis-1,3-Dichloropropene	750	896	119	(74-126)
Dibromochloromethane	750	872	116	(74-126)
Dibromomethane	750	826	110	(78-125)
Dichlorodifluoromethane	750	666	89	(29-149)
Ethylbenzene	750	804	107	(76-122)
Freon-113	1130	1250	111	(66-136)
Hexachlorobutadiene	750	765	102	(61-135)
Isopropylbenzene (Cumene)	750	820	109	(68-134)
Methylene chloride	750	798	106	(70-128)
Methyl-t-butyl ether	1130	1160	103	(73-125)
Naphthalene	750	743	99	(62-129)
n-Butylbenzene	750	767	102	(70-128)
n-Propylbenzene	750	754	101	(73-125)
o-Xylene	750	809	108	(77-123)
P & M -Xylene	1500	1610	107	(77-124)
sec-Butylbenzene	750	765	102	(73-126)
Styrene	750	817	109	(76-124)
tert-Butylbenzene	750	766	102	(73-125)
Tetrachloroethene	750	830	111	(73-128)
Toluene	750	769	103	(77-121)
trans-1,2-Dichloroethene	750	830	111	(74-125)
trans-1,3-Dichloropropene	750	827	110	(71-130)
Trichloroethene	750	809	108	(77-123)
Trichlorofluoromethane	750	902	120	(62-140)
Vinyl acetate	750	815	109	(50-151)
Vinyl chloride	750	749	100	(56-135)
Xylenes (total)	2250	2420	108	(78-124)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [VXX39654]
Blank Spike Lab ID: 1704923
Date Analyzed: 02/27/2023 12:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		98	(71-136)
4-Bromofluorobenzene (surr)	750		104	(55-151)
Toluene-d8 (surr)	750		101	(85-116)

Batch Information

Analytical Batch: **VMS22275**
Analytical Method: **SW8260D**
Instrument: **VQA 7890/5975 GC/MS**
Analyst: **S.S**

Prep Batch: **VXX39654**
Prep Method: **SW5035A**
Prep Date/Time: **02/27/2023 06:00**
Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1704925
MS Sample ID: 1704926 MS
MSD Sample ID: 1704927 MSD

Analysis Date: 02/27/2023 14:56
Analysis Date: 02/27/2023 13:27
Analysis Date: 02/27/2023 13:45
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	16.1U	1200	1480	124	1200	1450	121	78-125	2.60	(< 20)
1,1,1-Trichloroethane	20.1U	1200	1410	118	1200	1400	117	73-130	0.98	(< 20)
1,1,2,2-Tetrachloroethane	1.61U	1200	1280	107	1200	1250	104	70-124	2.00	(< 20)
1,1,2-Trichloroethane	0.800U	1200	1340	112	1200	1270	106	78-121	6.00	(< 20)
1,1-Dichloroethane	20.1U	1200	1340	112	1200	1330	111	76-125	1.30	(< 20)
1,1-Dichloroethene	20.1U	1200	1430	119	1200	1420	118	70-131	0.66	(< 20)
1,1-Dichloropropene	20.1U	1200	1390	116	1200	1370	114	76-125	1.30	(< 20)
1,2,3-Trichlorobenzene	80.0U	1200	1230	103	1200	1210	101	66-130	1.90	(< 20)
1,2,3-Trichloropropane	1.61U	1200	1190	100	1200	1180	98	73-125	1.40	(< 20)
1,2,4-Trichlorobenzene	20.1U	1200	1280	107	1200	1260	106	67-129	1.10	(< 20)
1,2,4-Trimethylbenzene	80.0U	1200	1250	105	1200	1260	106	75-123	0.81	(< 20)
1,2-Dibromo-3-chloropropane	80.0U	1200	1320	111	1200	1220	102	61-132	8.20	(< 20)
1,2-Dibromoethane	1.20U	1200	1400	117	1200	1320	111	78-122	5.60	(< 20)
1,2-Dichlorobenzene	20.1U	1200	1210	101	1200	1190	99	78-121	1.40	(< 20)
1,2-Dichloroethane	1.61U	1200	1260	105	1200	1150	96	73-128	9.00	(< 20)
1,2-Dichloropropane	8.00U	1200	1360	113	1200	1300	109	76-123	3.90	(< 20)
1,3,5-Trimethylbenzene	20.1U	1200	1270	106	1200	1280	107	73-124	0.74	(< 20)
1,3-Dichlorobenzene	20.1U	1200	1220	102	1200	1220	102	77-121	0.05	(< 20)
1,3-Dichloropropane	8.00U	1200	1340	112	1200	1280	107	77-121	4.50	(< 20)
1,4-Dichlorobenzene	20.1U	1200	1220	102	1200	1210	101	75-120	0.77	(< 20)
2,2-Dichloropropane	20.1U	1200	1500	125	1200	1470	123	67-133	1.70	(< 20)
2-Butanone (MEK)	201U	3590	3710	103	3590	2380	66	51-148	43.70 *	(< 20)
2-Chlorotoluene	20.1U	1200	1210	101	1200	1220	102	75-122	0.53	(< 20)
2-Hexanone	96.0U	3590	4030	112	3590	3680	103	53-145	8.90	(< 20)
4-Chlorotoluene	16.1U	1200	1210	101	1200	1230	103	72-124	1.80	(< 20)
4-Isopropyltoluene	64.0U	1200	1310	109	1200	1330	111	73-127	1.50	(< 20)
4-Methyl-2-pentanone (MIBK)	201U	3590	4020	112	3590	3670	102	65-135	9.30	(< 20)
Acetone	201U	3590	3380	94	3590	1540	43	36-164	75.00 *	(< 20)
Benzene	10.0U	1200	1340	112	1200	1310	110	77-121	2.20	(< 20)
Bromobenzene	20.1U	1200	1210	101	1200	1240	103	78-121	1.90	(< 20)
Bromochloromethane	20.1U	1200	1330	111	1200	1200	100	78-125	9.80	(< 20)
Bromodichloromethane	1.61U	1200	1500	125	1200	1430	119	75-127	4.90	(< 20)
Bromoform	20.1U	1200	1480	123	1200	1400	117	67-132	5.00	(< 20)
Bromomethane	16.1U	1200	1360	114	1200	1300	109	53-143	4.20	(< 20)
Carbon disulfide	80.0U	1800	2270	126	1800	2240	125	63-132	1.20	(< 20)
Carbon tetrachloride	10.0U	1200	1540	129	1200	1520	127	70-135	1.60	(< 20)
Chlorobenzene	20.1U	1200	1340	112	1200	1330	111	79-120	0.74	(< 20)

Print Date: 03/29/2023 8:35:49AM

Matrix Spike Summary

Original Sample ID: 1704925
MS Sample ID: 1704926 MS
MSD Sample ID: 1704927 MSD

Analysis Date: 02/27/2023 14:56
Analysis Date: 02/27/2023 13:27
Analysis Date: 02/27/2023 13:45
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

		Matrix Spike (ug/kg)				Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Chloroethane	161U	1200	1440	121		1200	1450	121		59-139	0.65	(< 20)
Chloroform	4.81U	1200	1260	105		1200	1220	102		78-123	2.90	(< 20)
Chloromethane	20.1U	1200	1120	94		1200	1090	91		50-136	2.70	(< 20)
cis-1,2-Dichloroethene	20.1U	1200	1360	113		1200	1300	108		77-123	4.40	(< 20)
cis-1,3-Dichloropropene	10.0U	1200	1550	130	*	1200	1490	124		74-126	4.30	(< 20)
Dibromochloromethane	4.01U	1200	1440	120		1200	1370	115		74-126	4.70	(< 20)
Dibromomethane	20.1U	1200	1350	113		1200	1220	102		78-125	10.20	(< 20)
Dichlorodifluoromethane	80.0U	1200	1220	102		1200	1200	100		29-149	2.20	(< 20)
Ethylbenzene	20.1U	1200	1350	113		1200	1320	110		76-122	2.10	(< 20)
Freon-113	80.0U	1800	2150	120		1800	2140	119		66-136	0.55	(< 20)
Hexachlorobutadiene	16.1U	1200	1550	130		1200	1670	139	*	61-135	7.10	(< 20)
Isopropylbenzene (Cumene)	20.1U	1200	1370	114		1200	1350	113		68-134	1.20	(< 20)
Methylene chloride	80.0U	1200	1330	111		1200	1260	105		70-128	5.20	(< 20)
Methyl-t-butyl ether	80.0U	1800	1850	103		1800	1740	97		73-125	6.10	(< 20)
Naphthalene	20.1U	1200	1230	103		1200	1180	99		62-129	4.10	(< 20)
n-Butylbenzene	20.1U	1200	1350	113		1200	1380	115		70-128	2.30	(< 20)
n-Propylbenzene	20.1U	1200	1270	106		1200	1290	107		73-125	1.40	(< 20)
o-Xylene	20.1U	1200	1360	114		1200	1360	113		77-123	0.50	(< 20)
P & M -Xylene	40.1U	2390	2680	112		2390	2680	112		77-124	0.04	(< 20)
sec-Butylbenzene	20.1U	1200	1280	107		1200	1290	108		73-126	1.10	(< 20)
Styrene	20.1U	1200	1360	113		1200	1340	112		76-124	1.50	(< 20)
tert-Butylbenzene	20.1U	1200	1270	106		1200	1260	106		73-125	0.11	(< 20)
Tetrachloroethene	10.0U	1200	1450	121		1200	1420	119		73-128	2.10	(< 20)
Toluene	20.1U	1200	1300	109		1200	1290	108		77-121	1.10	(< 20)
trans-1,2-Dichloroethene	20.1U	1200	1400	117		1200	1370	114		74-125	1.90	(< 20)
trans-1,3-Dichloropropene	10.0U	1200	1420	119		1200	1370	114		71-130	3.90	(< 20)
Trichloroethene	8.00U	1200	1370	115		1200	1350	113		77-123	1.60	(< 20)
Trichlorofluoromethane	40.1U	1200	1680	140		1200	1800	150	*	62-140	6.70	(< 20)
Vinyl acetate	80.0U	1200	1400	117		1200	1210	101		50-151	14.10	(< 20)
Vinyl chloride	0.640U	1200	1270	106		1200	1220	102		56-135	3.80	(< 20)
Xylenes (total)	60.0U	3590	4040	113		3590	4040	112		78-124	0.20	(< 20)
Surrogates												
1,2-Dichloroethane-D4 (surr)		1200	1180	99		1200	1070	90		71-136	9.80	
4-Bromofluorobenzene (surr)		1720	1280	74		1720	1300	76		55-151	2.00	
Toluene-d8 (surr)		1200	1230	102		1200	1240	103		85-116	0.82	

Matrix Spike Summary

Original Sample ID: 1704925
MS Sample ID: 1704926 MS
MSD Sample ID: 1704927 MSD

Analysis Date:
Analysis Date: 02/27/2023 13:27
Analysis Date: 02/27/2023 13:45
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011, 1230750012, 1230750013

Results by **SW8260D**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS22275
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: S.S
Analytical Date/Time: 2/27/2023 1:27:00PM

Prep Batch: VXX39654
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 2/27/2023 6:00:00AM
Prep Initial Wt./Vol.: 36.34g
Prep Extract Vol: 29.13mL

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Method Blank

Blank ID: MB for HBN 1851425 [XXX/47562]
Blank Lab ID: 1704635

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	10.8J	20.0	9.00	10.0	mg/kg
Surrogates					
5a Androstane (surr)	82	60-120		0	%

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: HMW
Analytical Date/Time: 3/1/2023 3:49:00PM

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 2/28/2023 3:27:00PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [XXX47562]
Blank Spike Lab ID: 1704636
Date Analyzed: 03/01/2023 15:59

Spike Duplicate ID: LCSD for HBN 1230750 [XXX47562]
Spike Duplicate Lab ID: 1704637
Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	833	885	106	833	802	96	(75-125)	9.90	(< 20)
Surrogates									
5a Androstane (surr)	16.7		108	16.7		99	(60-120)	9.20	

Batch Information

Analytical Batch: **XFC16457**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **HMW**

Prep Batch: **XXX47562**
Prep Method: **SW3550C**
Prep Date/Time: **02/28/2023 15:27**
Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1851425 [XXX/47562]
Blank Lab ID: 1704635

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **AK103**

Parameter	Results	LOQ/CL	DL	LOD	Units
Residual Range Organics	50.0U	100	43.0	50.0	mg/kg
Surrogates					
n-Triacontane-d62 (surr)	95.6	60-120		0	%

Batch Information

Analytical Batch: XFC16457
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: HMW
Analytical Date/Time: 3/1/2023 3:49:00PM

Prep Batch: XXX47562
Prep Method: SW3550C
Prep Date/Time: 2/28/2023 3:27:00PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [XXX47562]
Blank Spike Lab ID: 1704636
Date Analyzed: 03/01/2023 15:59

Spike Duplicate ID: LCSD for HBN 1230750 [XXX47562]
Spike Duplicate Lab ID: 1704637
Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **AK103**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	833	853	102	833	771	93	(60-120)	10.20	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	16.7		105	16.7		95	(60-120)	9.80	

Batch Information

Analytical Batch: **XFC16457**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **HMW**

Prep Batch: **XXX47562**
Prep Method: **SW3550C**
Prep Date/Time: **02/28/2023 15:27**
Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1851750 [XXX/47566]
Blank Lab ID: 1704823

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **SW8082A**

Parameter	Results	LOQ/CL	DL	LOD	Units
Aroclor-1016	25.0U	50.0	12.5	25.0	ug/kg
Aroclor-1221	50.0U	100	25.0	50.0	ug/kg
Aroclor-1232	25.0U	50.0	12.5	25.0	ug/kg
Aroclor-1242	25.0U	50.0	12.5	25.0	ug/kg
Aroclor-1248	25.0U	50.0	12.5	25.0	ug/kg
Aroclor-1254	25.0U	50.0	12.5	25.0	ug/kg
Aroclor-1260	25.0U	50.0	12.5	25.0	ug/kg
Surrogates					
Decachlorobiphenyl (surr)	85	60-125		0	%

Batch Information

Analytical Batch: XGC11282
Analytical Method: SW8082A
Instrument: Agilent 7890B/G3440B ECD Front
Analyst: BRP
Analytical Date/Time: 3/21/2023 3:39:00PM

Prep Batch: XXX47566
Prep Method: SW3550C
Prep Date/Time: 2/27/2023 5:05:42PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [XXX47566]
Blank Spike Lab ID: 1704824
Date Analyzed: 03/21/2023 15:50

Spike Duplicate ID: LCSD for HBN 1230750 [XXX47566]
Spike Duplicate Lab ID: 1706305
Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **SW8082A**

	Blank Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aroclor-1016	222	171	77	222	164	74	(47-134)	3.97	(< 30)
Aroclor-1260	222	187	84	222	191	86	(53-140)	2.35	(< 30)
Surrogates									
Decachlorobiphenyl (surr)	88.9		95	88.9		100	(60-125)	5.13	

Batch Information

Analytical Batch: **XGC11282**
Analytical Method: **SW8082A**
Instrument: **Agilent 7890B/G3440B ECD Front**
Analyst: **BRP**

Prep Batch: **XXX47566**
Prep Method: **SW3550C**
Prep Date/Time: **02/27/2023 17:05**
Spike Init Wt./Vol.: 222 ug/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 222 ug/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1851897 [XXX/47572]
Blank Lab ID: 1705079

Matrix: Soil/Solid (dry weight)

QC for Samples:
1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **8270D SIM (PAH)**

Parameter	Results	LOQ/CL	DL	LOD	Units
1-Methylnaphthalene	12.5U	25.0	6.25	12.5	ug/kg
2-Methylnaphthalene	12.5U	25.0	6.25	12.5	ug/kg
Acenaphthene	12.5U	25.0	6.25	12.5	ug/kg
Acenaphthylene	12.5U	25.0	6.25	12.5	ug/kg
Anthracene	12.5U	25.0	6.25	12.5	ug/kg
Benzo(a)Anthracene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[a]pyrene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[b]Fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[g,h,i]perylene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[k]fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Chrysene	12.5U	25.0	6.25	12.5	ug/kg
Dibenzo[a,h]anthracene	12.5U	25.0	6.25	12.5	ug/kg
Fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Fluorene	12.5U	25.0	6.25	12.5	ug/kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	6.25	12.5	ug/kg
Naphthalene	10.0U	20.0	5.00	10.0	ug/kg
Phenanthrene	12.5U	25.0	6.25	12.5	ug/kg
Pyrene	12.5U	25.0	6.25	12.5	ug/kg
Surrogates					
2-Methylnaphthalene-d10 (surr)	90.8	58-103		0	%
Fluoranthene-d10 (surr)	95.7	54-113		0	%

Batch Information

Analytical Batch: XMS13550
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: NGG
Analytical Date/Time: 3/5/2023 5:41:00PM

Prep Batch: XXX47572
Prep Method: SW3550C
Prep Date/Time: 3/2/2023 1:06:33PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1230750 [XXX47572]
Blank Spike Lab ID: 1705080
Date Analyzed: 03/05/2023 18:01

Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **8270D SIM (PAH)**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	103	93	(43-111)
2-Methylnaphthalene	111	103	93	(39-114)
Acenaphthene	111	103	93	(44-111)
Acenaphthylene	111	99.5	90	(39-116)
Anthracene	111	101	91	(50-114)
Benzo(a)Anthracene	111	102	92	(54-122)
Benzo[a]pyrene	111	105	94	(50-125)
Benzo[b]Fluoranthene	111	107	96	(53-128)
Benzo[g,h,i]perylene	111	107	96	(49-127)
Benzo[k]fluoranthene	111	110	99	(56-123)
Chrysene	111	110	99	(57-118)
Dibenzo[a,h]anthracene	111	108	97	(50-129)
Fluoranthene	111	110	99	(55-119)
Fluorene	111	105	95	(47-114)
Indeno[1,2,3-c,d] pyrene	111	108	98	(49-130)
Naphthalene	111	103	93	(38-111)
Phenanthrene	111	99.3	89	(49-113)
Pyrene	111	107	97	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111		91	(58-103)
Fluoranthene-d10 (surr)	111		91	(54-113)

Batch Information

Analytical Batch: **XMS13550**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **NGG**

Prep Batch: **XXX47572**
Prep Method: **SW3550C**
Prep Date/Time: **03/02/2023 13:06**
Spike Init Wt./Vol.: 111 ug/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Matrix Spike Summary

Original Sample ID: 1230766004
MS Sample ID: 1705310 MS
MSD Sample ID: 1705311 MSD

Analysis Date: 03/06/2023 13:18
Analysis Date: 03/06/2023 13:34
Analysis Date: 03/06/2023 13:50
Matrix: Soil/Solid (dry weight)

QC for Samples: 1230750001, 1230750002, 1230750003, 1230750004, 1230750005, 1230750006, 1230750007, 1230750008, 1230750009, 1230750010, 1230750011

Results by **8270D SIM (PAH)**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	16.3U	146	139	95	146	132	91	43-111	4.70	(< 20)
2-Methylnaphthalene	9.71J	146	143	91	146	139	88	39-114	2.60	(< 20)
Acenaphthene	16.3U	146	136	94	146	127	87	44-111	7.00	(< 20)
Acenaphthylene	16.3U	146	139	95	146	132	90	39-116	5.70	(< 20)
Anthracene	16.3U	146	140	96	146	132	90	50-114	6.60	(< 20)
Benzo(a)Anthracene	16.3U	146	144	99	146	136	93	54-122	6.10	(< 20)
Benzo[a]pyrene	16.3U	146	138	94	146	132	90	50-125	4.20	(< 20)
Benzo[b]Fluoranthene	16.3U	146	142	97	146	135	92	53-128	4.80	(< 20)
Benzo[g,h,i]perylene	16.3U	146	120	82	146	116	79	49-127	4.00	(< 20)
Benzo[k]fluoranthene	16.3U	146	139	95	146	130	89	56-123	6.50	(< 20)
Chrysene	16.3U	146	132	91	146	123	84	57-118	7.40	(< 20)
Dibenzo[a,h]anthracene	16.3U	146	122	84	146	117	80	50-129	3.90	(< 20)
Fluoranthene	16.3U	146	136	94	146	127	87	55-119	7.90	(< 20)
Fluorene	16.3U	146	138	94	146	128	88	47-114	7.00	(< 20)
Indeno[1,2,3-c,d] pyrene	16.3U	146	126	86	146	121	83	49-130	3.50	(< 20)
Naphthalene	8.21J	146	143	92	146	136	87	38-111	4.90	(< 20)
Phenanthrene	16.3U	146	142	97	146	132	90	49-113	7.20	(< 20)
Pyrene	16.3U	146	135	93	146	128	87	55-117	6.00	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		146	128	88	146	119	81	58-103	7.40	
Fluoranthene-d10 (surr)		146	125	85	146	115	79	54-113	8.30	

Batch Information

Analytical Batch: XMS13551
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent 8890 GC/MS US2210A024
Analyst: NGG
Analytical Date/Time: 3/6/2023 1:34:00PM

Prep Batch: XXX47572
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 3/2/2023 1:06:33PM
Prep Initial Wt./Vol.: 22.67g
Prep Extract Vol: 5.00mL

Print Date: 03/29/2023 8:36:07AM

SGS

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CHAIN OF CUSTODY RECORD

SGS 200 ' Anch eng www

1230750

Profile #: 365427 Int.: DRD

Page 1 of 1

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT:	Shannon & Wilson		
CONTACT:	Alec Rizzo	PHONE #:	907-561-2120
PROJECT NAME:	ANC Fire Training Pit	Project/Permit Number:	
		NPDL Number(DOD):	
REPORTS TO:		E-MAIL:	alec.rizzo.shanwil.com
INVOICE TO:		QUOTE #:	
		P.O. #:	108906

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	Section 3 # CONTAINERS	Preservative: Methanol	Sample Type: Comp / Grab / MI	Analysis*: GRO (Ak101) /VOC (8260)	DRO/RRO (AK102/103)	PAH (8270)	PCB (8082)	Dioxins (8290)	REMARKS/LOC ID
(1) AC	108906-SB1S1	2/20/2023	1030	S	3		Grab	X	X	X	X	X	
(2) AC	108906-SB1S2	2/20/2023	1050	S	3		Grab	X	X	X	X	X	
(3) AC	108906-SB2S1	2/21/2023	1040	S	3		Grab	X	X	X	X	X	
(4) AC	108906-SB2S2	2/21/2023	1130	S	3		Grab	X	X	X	X	X	
(5) AC	108906-SB3S1	2/22/2023	1435	S	3		Grab	X	X	X	X	X	
(6) AC	108906-SB3S2	2/22/2023	1500	S	3		Grab	X	X	X	X	X	
(7) AC	108906-SB3S12	2/23/2023	1530	S	3		Grab	X	X	X	X	X	
(8) AC	108906-SB4S1	2/23/2023	1600	S	3		Grab	X	X	X	X	X	
(9) AC	108906-SB4S2	2/23/2023	1610	S	3		Grab	X	X	X	X	X	
(10) AC	108906-SB5S1	2/23/2023	1420	S	3		Grab	X	X	X	X	X	
(11) AC	108906-SB5S2	2/23/2023	1450	S	3		Grab	X	X	X	X	X	
(12) A	108096-FB1	2/23/2023	1445	S	1		QC	X					field blank
(13) A	108906-TB1	2/23/2023	1700	S	1		QC	X					trip blank

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Comments:

Section 4

DOD Project? YES NO

Data Deliverables Requested

DataView SEDD EQUIS

Level 4 ERPIMS Other:_____

Turnaround Time Requested

Standard

Rush

Requested Rush Report Date:_____

SGS Sample Receipt (Lab Use Only)

Delivery Method: Client Commercial

Did each cooler have a corresponding COC? Yes No

Chain of Custody Seal Condition: INTACT BROKEN ABSENT

COC Seal Location(s):_____

Section 5

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	Cooler ID	Temperature (°C)	Therm. ID
	2/24	1500				
				1	1.7	D65
	2/24/23	1507				

If more than three coolers are received, or for documentation of non-compliant coolers, use form FS-0029.

Note: If temp. is outside 0-6° and samples were not taken <8 hours ago OR are waste samples, Client or PM should initial here or attach an email change order to proceed with analysis. If ice is present, note on form F102B.

Intials:_____

Laboratory Use Only

1230750

SGS

SAMPLE RECEIPT FORM

Project Manager Completion				
Was all necessary information recorded on the COC upon receipt? (temperature, COC seals, etc.?)	Yes	No	N/A	
Was temperature between 0-6° C?	Yes	No	N/A	If "No", are the samples either exempt* or sampled <8 hours prior to receipt?
Were all analyses received within holding time*?	Yes	No	N/A	
Was a method specified for each analysis, where applicable? If no, please note correct methods.	Yes	No	N/A	
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	Yes	No	N/A	
If rush was requested by the client, was the requested TAT approved?	Yes	No	N/A	If "NO", what is the approved TAT?
If SEDD Deliverables are required, were Location ID's and an NPDL Number provided?	Yes	No	N/A	*If "NO", contact client for information.*
Sample Login Completion				
Do ID's on sample containers match COC?	Yes	No	N/A	
If provided on containers, do dates/times collected match COC?	Yes	No	N/A	Note: If times differ <1 hr., record details below and login per COC.
Were all sample containers received in good condition?	Yes	No	N/A	
Were proper containers (type/mass/volume/preservative) received for all samples? **See form F-083 "Sample Guide"*	Yes	No	N/A	*Note: If 200.8/6020 Total Metals are received unpreserved, preserve and note HNO3 lot here: If 200.8/6020 Dissolved Metals are received unpreserved, log in for LABFILTER and do not preserve. For all non-metals methods, inform Project Manager.*
Were Trip Blanks (VOC, GRO, Low-Level Hg, etc.) received with samples, where applicable*?	Yes	No	N/A	
Were all VOA vials free of headspace >6mm?	Yes	No	N/A	
Were all soil VOA samples received field extracted with Methanol?	Yes	No	N/A	
Did all soil VOA samples have an accompanying unpreserved container for % solids?	Yes	No	N/A	
If special handling is required, were containers labelled appropriately? e.g. MI/ISM, foreign soils, lab filter, Ref Lab, limited volume	Yes	No	N/A	RL
For Rush/Short Holding time, was the lab notified?	Yes	No	N/A	
For any question answered "NO", was the Project Manager notified?	Yes	No	N/A	PM Initials:
Was Peer Review of sample numbering/labelling completed?	Yes	No	N/A	Reviewer Initials:
Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:				

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1230750001-A	No Preservative Required	OK			
1230750001-B	Methanol field pres. 4 C	OK			
1230750001-C	No Preservative Required	OK			
1230750002-A	No Preservative Required	OK			
1230750002-B	Methanol field pres. 4 C	OK			
1230750002-C	No Preservative Required	OK			
1230750003-A	No Preservative Required	OK			
1230750003-B	Methanol field pres. 4 C	OK			
1230750003-C	No Preservative Required	OK			
1230750004-A	No Preservative Required	OK			
1230750004-B	Methanol field pres. 4 C	OK			
1230750004-C	No Preservative Required	OK			
1230750005-A	No Preservative Required	OK			
1230750005-B	Methanol field pres. 4 C	OK			
1230750005-C	No Preservative Required	OK			
1230750006-A	No Preservative Required	OK			
1230750006-B	Methanol field pres. 4 C	OK			
1230750006-C	No Preservative Required	OK			
1230750007-A	No Preservative Required	OK			
1230750007-B	Methanol field pres. 4 C	OK			
1230750007-C	No Preservative Required	OK			
1230750008-A	No Preservative Required	OK			
1230750008-B	Methanol field pres. 4 C	OK			
1230750008-C	No Preservative Required	OK			
1230750009-A	No Preservative Required	OK			
1230750009-B	Methanol field pres. 4 C	OK			
1230750009-C	No Preservative Required	OK			
1230750010-A	No Preservative Required	OK			
1230750010-B	Methanol field pres. 4 C	OK			
1230750010-C	No Preservative Required	OK			
1230750011-A	No Preservative Required	OK			
1230750011-B	Methanol field pres. 4 C	OK			
1230750011-C	No Preservative Required	OK			
1230750012-A	Methanol field pres. 4 C	OK			
1230750013-A	Methanol field pres. 4 C	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

FINAL LAB REPORT

1230750

32300696

29-Mar-2023

Prepared by

SGS NORTH AMERICA

Prepared for

SGS North America Inc. - Alaska

Justin A. Nelson

200 West Potter Drive
Anchorage, AK 99518
Phone: 907-206-1339
Email: justin.nelson@sgs.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

Laboratory Qualifiers

Report Definitions

DL	Method or Instrument Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank
EMPC	Estimated Maximum Possible Concentration
TEQ	Toxic Equivalent

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above ½ the LOQ or >1/10 the amount measured in any sample or > 1/10 the regulatory limit, whichever is greater
U	Undetected (Reported as <LOD)
J	Estimated Concentration.
E	Amount detected is greater than the Upper Calibration Limit
Q	LCS outside of control limits

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	88-0682
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Colorado	NC00919
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.4)
Florida DOH	E87634
Hawaii DOH	Approval
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020020
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
Ohio	87785
Oklahoma	2205
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
UCMR 5	NC00919
US Coast Guard	16714/159.317/SGS
U.S. Fish and Wildlife Service	A22801
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 16-Mar-2023

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
108906-SB1S1	32300696001	02/20/2023 10:30	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB1S2	32300696002	02/20/2023 10:50	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB2S1	32300696003	02/21/2023 10:40	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB2S2	32300696004	02/21/2023 11:30	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB3S1	32300696005	02/22/2023 14:35	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB3S2	32300696006	02/22/2023 15:00	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB3S12	32300696007	02/23/2023 15:30	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB4S1	32300696008	02/23/2023 16:00	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB4S2	32300696009	02/23/2023 16:10	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB5S1	32300696010	02/23/2023 14:20	03/01/2023 09:52	Soil-Solid as dry weight
108906-SB5S2	32300696011	02/23/2023 14:50	03/01/2023 09:52	Soil-Solid as dry weight

Case Narrative

11 solid samples were submitted to SGS Wilmington at 9:52 am on March 1, 2023. Samples were received on ice and measured to be 5.1°C.

Chemical preservation of samples is not required per this method. There was a custody seal on the cooler.

Samples were extracted and analysed within recommended holding times.

Sample analysis per EPA SW-846 Method 8290 was requested.

Samples were prepped on March 9 and 20, 2023 per SW-846 Test Method 3540C: Soxhlet Extraction, Revision 3, December 1996 and per SOP DC_441.9; clean up per DC_365.13 and analyzed on March 17, 18, 20 and 23, 2023 per DC_364.16.

Solid samples are reported on a dry weight basis.

Data processing uses proprietary software.

Initial Calibration meets requirements.

Continuing Calibrations meet requirements.

Method Blanks and LCSs meet method requirements.

32300696002 (108906-SB1S2)

Sample required re-extraction due to low labelled standard recoveries (ES and CS). The reported percent recovery of all labelled standards is still below criteria, indicating matrix interferences, and resulting in elevated detection limits (DL) of 2,3,7,8-TCDD (4.64 pg/g) and 2,3,7,8-TCDF (1.21 pg/g). Results are considered estimated and qualified “Q”.

32300696008 (108906-SB4S1)

The reported percent recovery of labelled extraction standard ES OCDD is below criteria; the associated compound is less than LOD value and considered estimated “Q”.

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696001-A
Lab Project ID: 32300696

Collection Date: 02/20/2023 10:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 82.10

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.990		U	0.495	0.990	pg/g
12378-PeCDD	<2.48		U	1.24	2.48	pg/g
123478-HxCDD	<2.48		U	1.24	2.48	pg/g
123678-HxCDD	<4.95		U	2.48	4.95	pg/g
123789-HxCDD	<2.48		U	1.24	2.48	pg/g
1234678-HpCDD	<2.48		U	1.24	2.48	pg/g
OCDD		6.58	J	5.94	12.4	pg/g
2378-TCDF	<0.495		U	0.248	0.990	pg/g
12378-PeCDF	<2.48		U	1.24	2.48	pg/g
23478-PeCDF	<4.95		U	2.48	4.95	pg/g
123478-HxCDF	<4.95		U	1.24	2.48	pg/g
123678-HxCDF	<2.48		U	1.24	2.48	pg/g
234678-HxCDF	<2.48		U	1.24	2.48	pg/g
123789-HxCDF	<2.48		U	1.24	2.48	pg/g
1234678-HpCDF	<2.48		U	1.24	2.48	pg/g
1234789-HpCDF	<2.48		U	1.24	2.48	pg/g
OCDF	<4.95		U	2.48	4.95	pg/g
Total TCDD		1.49		0.495	0.990	pg/g
Total PeCDD	<2.48		U	1.24	2.48	pg/g
Total HxCDD	<2.48		U	2.48	4.95	pg/g
Total HpCDD		1.78	J	1.24	2.48	pg/g
Total TCDF		1.57		0.248	0.990	pg/g
Total PeCDF	<2.48		U	2.48	4.95	pg/g
Total HxCDF	<2.48		U	1.24	2.48	pg/g
Total HpCDF	<2.48		U	1.24	2.48	pg/g

Results of **108906-SB1S1**

Client Sample ID: **108906-SB1S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696001-A
Lab Project ID: 32300696

Collection Date: 02/20/2023 10:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 82.10

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	89.0				40.0-135	%
ES 12378-PeCDD	90.0				40.0-135	%
ES 123478-HxCDD	87.0				40.0-135	%
ES 123678-HxCDD	85.0				40.0-135	%
ES 123789-HxCDD	86.0				40.0-135	%
ES 1234678-HpCDD	87.0				40.0-135	%
ES OCDD	65.0				40.0-135	%
ES 2378-TCDF	80.0				40.0-135	%
ES 12378-PeCDF	90.0				40.0-135	%
ES 23478-PeCDF	85.0				40.0-135	%
ES 123478-HxCDF	80.0				40.0-135	%
ES 123678-HxCDF	82.0				40.0-135	%
ES 234678-HxCDF	79.0				40.0-135	%
ES 123789-HxCDF	82.0				40.0-135	%
ES 1234678-HpCDF	88.0				40.0-135	%
ES 1234789-HpCDF	84.0				40.0-135	%
ES OCDF	69.0				40.0-135	%
CS 37Cl-2378-TCDD	90.0				40.0-135	%
CS 12347-PeCDD	99.0				40.0-135	%
CS 12346-PeCDF	98.0				40.0-135	%
CS 123469-HxCDF	88.0				40.0-135	%
CS 1234689-HpCDF	92.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 00:56**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.10 g**
Prep Extract Vol: **20 uL**
Filename: 230317A19

TEQ Summary

Client Sample ID: 108906-SB1S1
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696001

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.495	0
12378-PeCDD	ND	U	1.24	0
123478-HxCDD	ND	UEMC	1.24	0
123678-HxCDD	ND	U	2.48	0
123789-HxCDD	ND	U	1.24	0
1234678-HpCDD	ND	UEMC	1.24	0
OCDD	6.58	JEMC	5.94	0.0020
2378-TCDF	ND	U	0.248	0
12378-PeCDF	ND	U	1.24	0
23478-PeCDF	ND	U	2.48	0
123478-HxCDF	ND	U	1.24	0
123678-HxCDF	ND	U	1.24	0
234678-HxCDF	ND	U	1.24	0
123789-HxCDF	ND	U	1.24	0
1234678-HpCDF	ND	UEMC	1.24	0
1234789-HpCDF	ND	U	1.24	0
OCDF	ND	U	2.48	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.57**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.57**

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696002-A
Lab Project ID: 32300696

Collection Date: 02/20/2023 10:50
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 70.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<4.64		UQ	0.489	0.978	pg/g
12378-PeCDD	<2.45		UQ	1.22	2.45	pg/g
123478-HxCDD	<2.45		UQ	1.22	2.45	pg/g
123678-HxCDD	<4.89		UQ	2.45	4.89	pg/g
123789-HxCDD	<2.45		UQ	1.22	2.45	pg/g
1234678-HpCDD	<2.45		UQ	1.22	2.45	pg/g
OCDD	<9.78		UQ	5.87	12.2	pg/g
2378-TCDF	<1.21		UQ	0.245	0.978	pg/g
12378-PeCDF	<2.45		UQ	1.22	2.45	pg/g
23478-PeCDF	<4.89		UQ	2.45	4.89	pg/g
123478-HxCDF	<4.89		UQ	1.22	2.45	pg/g
123678-HxCDF	<2.45		UQ	1.22	2.45	pg/g
234678-HxCDF	<2.45		UQ	1.22	2.45	pg/g
123789-HxCDF	<2.45		UQ	1.22	2.45	pg/g
1234678-HpCDF	<2.45		UQ	1.22	2.45	pg/g
1234789-HpCDF	<2.45		UQ	1.22	2.45	pg/g
OCDF	<4.89		UQ	2.45	4.89	pg/g
Total TCDD	<4.64		U	0.489	0.978	pg/g
Total PeCDD	<2.45		U	1.22	2.45	pg/g
Total HxCDD	**3.12**		J	2.45	4.89	pg/g
Total HpCDD	<2.45		U	1.22	2.45	pg/g
Total TCDF		3.34		0.245	0.978	pg/g
Total PeCDF	<2.45		U	2.45	4.89	pg/g
Total HxCDF	<2.45		U	1.22	2.45	pg/g
Total HpCDF	<2.45		U	1.22	2.45	pg/g

Results of **108906-SB1S2**

Client Sample ID: **108906-SB1S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696002-A
Lab Project ID: 32300696

Collection Date: 02/20/2023 10:50
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 70.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	15.0*				40.0-135	%
ES 12378-PeCDD	15.0*				40.0-135	%
ES 123478-HxCDD	15.0*				40.0-135	%
ES 123678-HxCDD	15.0*				40.0-135	%
ES 123789-HxCDD	15.0*				40.0-135	%
ES 1234678-HpCDD	15.0*				40.0-135	%
ES OCDD	12.0*				40.0-135	%
ES 2378-TCDF	14.0*				40.0-135	%
ES 12378-PeCDF	15.0*				40.0-135	%
ES 23478-PeCDF	14.0*				40.0-135	%
ES 123478-HxCDF	14.0*				40.0-135	%
ES 123678-HxCDF	14.0*				40.0-135	%
ES 234678-HxCDF	12.0*				40.0-135	%
ES 123789-HxCDF	15.0*				40.0-135	%
ES 1234678-HpCDF	14.0*				40.0-135	%
ES 1234789-HpCDF	14.0*				40.0-135	%
ES OCDF	13.0*				40.0-135	%
CS 37Cl-2378-TCDD	24.0*				40.0-135	%
CS 12347-PeCDD	26.0*				40.0-135	%
CS 12346-PeCDF	26.0*				40.0-135	%
CS 123469-HxCDF	23.0*				40.0-135	%
CS 1234689-HpCDF	24.0*				40.0-135	%

Batch Information

Analytical Batch: **HRD2284**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/23/2023 17:44**
Dilution: **1**

Prep Batch: **HXX3387**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/20/2023 15:25**
Prep Initial Wt./Vol.: **10.22 g**
Prep Extract Vol: **20 uL**
Filename: 230323A08

TEQ Summary

Client Sample ID: 108906-SB1S2
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696002

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.489	0
12378-PeCDD	ND	U	1.22	0
123478-HxCDD	ND	U	1.22	0
123678-HxCDD	ND	U	2.45	0
123789-HxCDD	ND	U	1.22	0
1234678-HpCDD	ND	U	1.22	0
OCDD	ND	U	5.87	0
2378-TCDF	ND	U	0.245	0
12378-PeCDF	ND	U	1.22	0
23478-PeCDF	ND	U	2.45	0
123478-HxCDF	ND	U	1.22	0
123678-HxCDF	ND	U	1.22	0
234678-HxCDF	ND	U	1.22	0
123789-HxCDF	ND	U	1.22	0
1234678-HpCDF	ND	UEMC	1.22	0
1234789-HpCDF	ND	U	1.22	0
OCDF	ND	U	2.45	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.76**
EMPC=0, ND=DL	**3.52**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.76**
EMPC=EMPC, ND=DL	**3.52**

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696003-A
Lab Project ID: 32300696

Collection Date: 02/21/2023 10:40
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 93.10

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.991		U	0.496	0.991	pg/g
12378-PeCDD	<2.48		U	1.24	2.48	pg/g
123478-HxCDD	<2.48		U	1.24	2.48	pg/g
123678-HxCDD	<4.96		U	2.48	4.96	pg/g
123789-HxCDD	<2.48		U	1.24	2.48	pg/g
1234678-HpCDD	<2.48		U	1.24	2.48	pg/g
OCDD	**7.55**		J	5.95	12.4	pg/g
2378-TCDF	<0.496		U	0.248	0.991	pg/g
12378-PeCDF	<2.48		U	1.24	2.48	pg/g
23478-PeCDF	<4.96		U	2.48	4.96	pg/g
123478-HxCDF	<4.96		U	1.24	2.48	pg/g
123678-HxCDF	<2.48		U	1.24	2.48	pg/g
234678-HxCDF	<2.48		U	1.24	2.48	pg/g
123789-HxCDF	<2.48		U	1.24	2.48	pg/g
1234678-HpCDF	<2.48		U	1.24	2.48	pg/g
1234789-HpCDF	<2.48		U	1.24	2.48	pg/g
OCDF	<4.96		U	2.48	4.96	pg/g
Total TCDD		0.947	J	0.496	0.991	pg/g
Total PeCDD	<2.48		U	1.24	2.48	pg/g
Total HxCDD	<2.48		U	2.48	4.96	pg/g
Total HpCDD		2.04	J	1.24	2.48	pg/g
Total TCDF	<0.496		U	0.248	0.991	pg/g
Total PeCDF	<2.48		U	2.48	4.96	pg/g
Total HxCDF	<2.48		U	1.24	2.48	pg/g
Total HpCDF	<2.48		U	1.24	2.48	pg/g

Results of **108906-SB2S1**

Client Sample ID: **108906-SB2S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696003-A
Lab Project ID: 32300696

Collection Date: 02/21/2023 10:40
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 93.10

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	94.0				40.0-135	%
ES 12378-PeCDD	97.0				40.0-135	%
ES 123478-HxCDD	94.0				40.0-135	%
ES 123678-HxCDD	96.0				40.0-135	%
ES 123789-HxCDD	94.0				40.0-135	%
ES 1234678-HpCDD	93.0				40.0-135	%
ES OCDD	64.0				40.0-135	%
ES 2378-TCDF	90.0				40.0-135	%
ES 12378-PeCDF	97.0				40.0-135	%
ES 23478-PeCDF	96.0				40.0-135	%
ES 123478-HxCDF	90.0				40.0-135	%
ES 123678-HxCDF	88.0				40.0-135	%
ES 234678-HxCDF	87.0				40.0-135	%
ES 123789-HxCDF	93.0				40.0-135	%
ES 1234678-HpCDF	90.0				40.0-135	%
ES 1234789-HpCDF	88.0				40.0-135	%
ES OCDF	71.0				40.0-135	%
CS 37Cl-2378-TCDD	91.0				40.0-135	%
CS 12347-PeCDD	96.0				40.0-135	%
CS 12346-PeCDF	100				40.0-135	%
CS 123469-HxCDF	93.0				40.0-135	%
CS 1234689-HpCDF	90.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 02:31**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.09 g**
Prep Extract Vol: **20 uL**
Filename: 230317A21

TEQ Summary

Client Sample ID: 108906-SB2S1
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696003

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.496	0
12378-PeCDD	ND	U	1.24	0
123478-HxCDD	ND	U	1.24	0
123678-HxCDD	ND	U	2.48	0
123789-HxCDD	ND	U	1.24	0
1234678-HpCDD	ND	U	1.24	0
OCDD	7.55	J	5.95	0.0023
2378-TCDF	ND	U	0.248	0
12378-PeCDF	ND	U	1.24	0
23478-PeCDF	ND	U	2.48	0
123478-HxCDF	ND	U	1.24	0
123678-HxCDF	ND	U	1.24	0
234678-HxCDF	ND	U	1.24	0
123789-HxCDF	ND	U	1.24	0
1234678-HpCDF	ND	U	1.24	0
1234789-HpCDF	ND	U	1.24	0
OCDF	ND	U	2.48	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.57**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.57**

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696004-A
Lab Project ID: 32300696

Collection Date: 02/21/2023 11:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 76.60

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.995		U	0.498	0.995	pg/g
12378-PeCDD	<2.49		U	1.24	2.49	pg/g
123478-HxCDD	<2.49		U	1.24	2.49	pg/g
123678-HxCDD	<4.98		U	2.49	4.98	pg/g
123789-HxCDD	<2.49		U	1.24	2.49	pg/g
1234678-HpCDD	<2.49		U	1.24	2.49	pg/g
OCDD	<9.95		U	5.97	12.4	pg/g
2378-TCDF	<0.498		U	0.249	0.995	pg/g
12378-PeCDF	<2.49		U	1.24	2.49	pg/g
23478-PeCDF	<4.98		U	2.49	4.98	pg/g
123478-HxCDF	<4.98		U	1.24	2.49	pg/g
123678-HxCDF	<2.49		U	1.24	2.49	pg/g
234678-HxCDF	<2.49		U	1.24	2.49	pg/g
123789-HxCDF	<2.49		U	1.24	2.49	pg/g
1234678-HpCDF	<2.49		U	1.24	2.49	pg/g
1234789-HpCDF	<2.49		U	1.24	2.49	pg/g
OCDF	<4.98		U	2.49	4.98	pg/g
Total TCDD	**25.8**			0.498	0.995	pg/g
Total PeCDD	<2.49		U	1.24	2.49	pg/g
Total HxCDD	<2.49		U	2.49	4.98	pg/g
Total HpCDD		1.39	J	1.24	2.49	pg/g
Total TCDF	<0.498		U	0.249	0.995	pg/g
Total PeCDF	<2.49		U	2.49	4.98	pg/g
Total HxCDF	<2.49		U	1.24	2.49	pg/g
Total HpCDF	<2.49		U	1.24	2.49	pg/g

Results of **108906-SB2S2**

Client Sample ID: **108906-SB2S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696004-A
Lab Project ID: 32300696

Collection Date: 02/21/2023 11:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 76.60

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	89.0				40.0-135	%
ES 12378-PeCDD	96.0				40.0-135	%
ES 123478-HxCDD	92.0				40.0-135	%
ES 123678-HxCDD	93.0				40.0-135	%
ES 123789-HxCDD	91.0				40.0-135	%
ES 1234678-HpCDD	94.0				40.0-135	%
ES OCDD	71.0				40.0-135	%
ES 2378-TCDF	84.0				40.0-135	%
ES 12378-PeCDF	97.0				40.0-135	%
ES 23478-PeCDF	95.0				40.0-135	%
ES 123478-HxCDF	83.0				40.0-135	%
ES 123678-HxCDF	85.0				40.0-135	%
ES 234678-HxCDF	85.0				40.0-135	%
ES 123789-HxCDF	87.0				40.0-135	%
ES 1234678-HpCDF	93.0				40.0-135	%
ES 1234789-HpCDF	85.0				40.0-135	%
ES OCDF	69.0				40.0-135	%
CS 37Cl-2378-TCDD	90.0				40.0-135	%
CS 12347-PeCDD	96.0				40.0-135	%
CS 12346-PeCDF	100				40.0-135	%
CS 123469-HxCDF	87.0				40.0-135	%
CS 1234689-HpCDF	89.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 03:19**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.05 g**
Prep Extract Vol: **20 uL**
Filename: 230317A22

TEQ Summary

Client Sample ID: 108906-SB2S2
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696004

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.498	0
12378-PeCDD	ND	U	1.24	0
123478-HxCDD	ND	U	1.24	0
123678-HxCDD	ND	U	2.49	0
123789-HxCDD	ND	U	1.24	0
1234678-HpCDD	ND	UEMC	1.24	0
OCDD	ND	U	5.97	0
2378-TCDF	ND	U	0.249	0
12378-PeCDF	ND	U	1.24	0
23478-PeCDF	ND	U	2.49	0
123478-HxCDF	ND	U	1.24	0
123678-HxCDF	ND	U	1.24	0
234678-HxCDF	ND	U	1.24	0
123789-HxCDF	ND	U	1.24	0
1234678-HpCDF	ND	U	1.24	0
1234789-HpCDF	ND	U	1.24	0
OCDF	ND	U	2.49	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.58**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.58**

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696005-A
Lab Project ID: 32300696

Collection Date: 02/22/2023 14:35
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 88.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.978		U	0.489	0.978	pg/g
12378-PeCDD	<2.45		U	1.22	2.45	pg/g
123478-HxCDD	<2.45		U	1.22	2.45	pg/g
123678-HxCDD	<4.89		U	2.45	4.89	pg/g
123789-HxCDD	<2.45		U	1.22	2.45	pg/g
1234678-HpCDD	**3.20**			1.22	2.45	pg/g
OCDD	**22.5**			5.87	12.2	pg/g
2378-TCDF	<0.489		U	0.245	0.978	pg/g
12378-PeCDF	<2.45		U	1.22	2.45	pg/g
23478-PeCDF	<4.89		U	2.45	4.89	pg/g
123478-HxCDF	<4.89		U	1.22	2.45	pg/g
123678-HxCDF	<2.45		U	1.22	2.45	pg/g
234678-HxCDF	<2.45		U	1.22	2.45	pg/g
123789-HxCDF	<2.45		U	1.22	2.45	pg/g
1234678-HpCDF	<2.45		U	1.22	2.45	pg/g
1234789-HpCDF	<2.45		U	1.22	2.45	pg/g
OCDF	<4.89		U	2.45	4.89	pg/g
Total TCDD		1.44		0.489	0.978	pg/g
Total PeCDD	<2.45		U	1.22	2.45	pg/g
Total HxCDD	<2.45		U	2.45	4.89	pg/g
Total HpCDD	**7.62**			1.22	2.45	pg/g
Total TCDF	<0.489		U	0.245	0.978	pg/g
Total PeCDF	<2.45		U	2.45	4.89	pg/g
Total HxCDF	<2.45		U	1.22	2.45	pg/g
Total HpCDF	<2.45		U	1.22	2.45	pg/g

Results of **108906-SB3S1**

Client Sample ID: **108906-SB3S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696005-A
Lab Project ID: 32300696

Collection Date: 02/22/2023 14:35
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 88.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	82.0				40.0-135	%
ES 12378-PeCDD	83.0				40.0-135	%
ES 123478-HxCDD	78.0				40.0-135	%
ES 123678-HxCDD	76.0				40.0-135	%
ES 123789-HxCDD	75.0				40.0-135	%
ES 1234678-HpCDD	73.0				40.0-135	%
ES OCDD	52.0				40.0-135	%
ES 2378-TCDF	78.0				40.0-135	%
ES 12378-PeCDF	85.0				40.0-135	%
ES 23478-PeCDF	84.0				40.0-135	%
ES 123478-HxCDF	73.0				40.0-135	%
ES 123678-HxCDF	71.0				40.0-135	%
ES 234678-HxCDF	70.0				40.0-135	%
ES 123789-HxCDF	74.0				40.0-135	%
ES 1234678-HpCDF	71.0				40.0-135	%
ES 1234789-HpCDF	71.0				40.0-135	%
ES OCDF	57.0				40.0-135	%
CS 37Cl-2378-TCDD	76.0				40.0-135	%
CS 12347-PeCDD	82.0				40.0-135	%
CS 12346-PeCDF	83.0				40.0-135	%
CS 123469-HxCDF	73.0				40.0-135	%
CS 1234689-HpCDF	70.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 04:06**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.22 g**
Prep Extract Vol: **20 uL**
Filename: 230317A23

TEQ Summary

Client Sample ID: 108906-SB3S1
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696005

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.489	0
12378-PeCDD	ND	U	1.22	0
123478-HxCDD	ND	U	1.22	0
123678-HxCDD	ND	U	2.45	0
123789-HxCDD	ND	U	1.22	0
1234678-HpCDD	3.20		1.22	0.0320
OCDD	22.5		5.87	0.0068
2378-TCDF	ND	U	0.245	0
12378-PeCDF	ND	U	1.22	0
23478-PeCDF	ND	U	2.45	0
123478-HxCDF	ND	U	1.22	0
123678-HxCDF	ND	U	1.22	0
234678-HxCDF	ND	U	1.22	0
123789-HxCDF	ND	U	1.22	0
1234678-HpCDF	ND	UEMC	1.22	0
1234789-HpCDF	ND	UEMC	1.22	0
OCDF	ND	U	2.45	0

TEQ Summaries

EMPC=0, ND=0	**0.04**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.55**
EMPC=EMPC, ND=0	**0.04**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.55**

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696006-A
Lab Project ID: 32300696

Collection Date: 02/22/2023 15:00
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 79.70

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.980		U	0.490	0.980	pg/g
12378-PeCDD	<2.45		U	1.23	2.45	pg/g
123478-HxCDD	<2.45		U	1.23	2.45	pg/g
123678-HxCDD	<4.90		U	2.45	4.90	pg/g
123789-HxCDD	<2.45		U	1.23	2.45	pg/g
1234678-HpCDD	<2.45		U	1.23	2.45	pg/g
OCDD	<9.80		U	5.88	12.3	pg/g
2378-TCDF	<0.490		U	0.245	0.980	pg/g
12378-PeCDF	<2.45		U	1.23	2.45	pg/g
23478-PeCDF	<4.90		U	2.45	4.90	pg/g
123478-HxCDF	<4.90		U	1.23	2.45	pg/g
123678-HxCDF	<2.45		U	1.23	2.45	pg/g
234678-HxCDF	<2.45		U	1.23	2.45	pg/g
123789-HxCDF	<2.45		U	1.23	2.45	pg/g
1234678-HpCDF	<2.45		U	1.23	2.45	pg/g
1234789-HpCDF	<2.45		U	1.23	2.45	pg/g
OCDF	<4.90		U	2.45	4.90	pg/g
Total TCDD		1.13		0.490	0.980	pg/g
Total PeCDD	<2.45		U	1.23	2.45	pg/g
Total HxCDD	<2.45		U	2.45	4.90	pg/g
Total HpCDD	<2.45		U	1.23	2.45	pg/g
Total TCDF	<0.490		U	0.245	0.980	pg/g
Total PeCDF	<2.45		U	2.45	4.90	pg/g
Total HxCDF	<2.45		U	1.23	2.45	pg/g
Total HpCDF	<2.45		U	1.23	2.45	pg/g

Results of **108906-SB3S2**

Client Sample ID: **108906-SB3S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696006-A
Lab Project ID: 32300696

Collection Date: 02/22/2023 15:00
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 79.70

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	91.0				40.0-135	%
ES 12378-PeCDD	95.0				40.0-135	%
ES 123478-HxCDD	91.0				40.0-135	%
ES 123678-HxCDD	90.0				40.0-135	%
ES 123789-HxCDD	93.0				40.0-135	%
ES 1234678-HpCDD	92.0				40.0-135	%
ES OCDD	71.0				40.0-135	%
ES 2378-TCDF	82.0				40.0-135	%
ES 12378-PeCDF	92.0				40.0-135	%
ES 23478-PeCDF	91.0				40.0-135	%
ES 123478-HxCDF	81.0				40.0-135	%
ES 123678-HxCDF	83.0				40.0-135	%
ES 234678-HxCDF	81.0				40.0-135	%
ES 123789-HxCDF	85.0				40.0-135	%
ES 1234678-HpCDF	88.0				40.0-135	%
ES 1234789-HpCDF	87.0				40.0-135	%
ES OCDF	72.0				40.0-135	%
CS 37Cl-2378-TCDD	94.0				40.0-135	%
CS 12347-PeCDD	98.0				40.0-135	%
CS 12346-PeCDF	95.0				40.0-135	%
CS 123469-HxCDF	88.0				40.0-135	%
CS 1234689-HpCDF	92.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 04:54**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.20 g**
Prep Extract Vol: **20 uL**
Filename: 230317A24

TEQ Summary

Client Sample ID: 108906-SB3S2
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696006

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.490	0
12378-PeCDD	ND	U	1.23	0
123478-HxCDD	ND	U	1.23	0
123678-HxCDD	ND	U	2.45	0
123789-HxCDD	ND	U	1.23	0
1234678-HpCDD	ND	UEMC	1.23	0
OCDD	ND	U	5.88	0
2378-TCDF	ND	U	0.245	0
12378-PeCDF	ND	U	1.23	0
23478-PeCDF	ND	U	2.45	0
123478-HxCDF	ND	U	1.23	0
123678-HxCDF	ND	U	1.23	0
234678-HxCDF	ND	U	1.23	0
123789-HxCDF	ND	U	1.23	0
1234678-HpCDF	ND	U	1.23	0
1234789-HpCDF	ND	U	1.23	0
OCDF	ND	U	2.45	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.77**
EMPC=0, ND=DL	**3.54**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.77**
EMPC=EMPC, ND=DL	**3.54**

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **1230750**
Lab Sample ID: 32300696007-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 15:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 79.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.992		U	0.496	0.992	pg/g
12378-PeCDD	<2.48		U	1.24	2.48	pg/g
123478-HxCDD	<2.48		U	1.24	2.48	pg/g
123678-HxCDD	<4.96		U	2.48	4.96	pg/g
123789-HxCDD	<2.48		U	1.24	2.48	pg/g
1234678-HpCDD	<2.48		U	1.24	2.48	pg/g
OCDD	<9.92		U	5.95	12.4	pg/g
2378-TCDF	<0.496		U	0.248	0.992	pg/g
12378-PeCDF	<2.48		U	1.24	2.48	pg/g
23478-PeCDF	<4.96		U	2.48	4.96	pg/g
123478-HxCDF	<4.96		U	1.24	2.48	pg/g
123678-HxCDF	<2.48		U	1.24	2.48	pg/g
234678-HxCDF	<2.48		U	1.24	2.48	pg/g
123789-HxCDF	<2.48		U	1.24	2.48	pg/g
1234678-HpCDF	<2.48		U	1.24	2.48	pg/g
1234789-HpCDF	<2.48		U	1.24	2.48	pg/g
OCDF	<4.96		U	2.48	4.96	pg/g
Total TCDD	**0.576**		J	0.496	0.992	pg/g
Total PeCDD	<2.48		U	1.24	2.48	pg/g
Total HxCDD	<2.48		U	2.48	4.96	pg/g
Total HpCDD	<2.48		U	1.24	2.48	pg/g
Total TCDF	<0.496		U	0.248	0.992	pg/g
Total PeCDF	<2.48		U	2.48	4.96	pg/g
Total HxCDF	<2.48		U	1.24	2.48	pg/g
Total HpCDF	<2.48		U	1.24	2.48	pg/g

Results of **108906-SB3S12**

Client Sample ID: **108906-SB3S12**
Client Project ID: **1230750**
Lab Sample ID: 32300696007-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 15:30
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 79.80

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	97.0				40.0-135	%
ES 12378-PeCDD	100				40.0-135	%
ES 123478-HxCDD	91.0				40.0-135	%
ES 123678-HxCDD	90.0				40.0-135	%
ES 123789-HxCDD	90.0				40.0-135	%
ES 1234678-HpCDD	93.0				40.0-135	%
ES OCDD	69.0				40.0-135	%
ES 2378-TCDF	94.0				40.0-135	%
ES 12378-PeCDF	100				40.0-135	%
ES 23478-PeCDF	98.0				40.0-135	%
ES 123478-HxCDF	84.0				40.0-135	%
ES 123678-HxCDF	87.0				40.0-135	%
ES 234678-HxCDF	86.0				40.0-135	%
ES 123789-HxCDF	90.0				40.0-135	%
ES 1234678-HpCDF	90.0				40.0-135	%
ES 1234789-HpCDF	88.0				40.0-135	%
ES OCDF	72.0				40.0-135	%
CS 37Cl-2378-TCDD	90.0				40.0-135	%
CS 12347-PeCDD	98.0				40.0-135	%
CS 12346-PeCDF	97.0				40.0-135	%
CS 123469-HxCDF	84.0				40.0-135	%
CS 1234689-HpCDF	84.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 05:41**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.08 g**
Prep Extract Vol: **20 uL**
Filename: 230317A25

TEQ Summary

Client Sample ID: 108906-SB3S12
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696007

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.496	0
12378-PeCDD	ND	U	1.24	0
123478-HxCDD	ND	U	1.24	0
123678-HxCDD	ND	U	2.48	0
123789-HxCDD	ND	U	1.24	0
1234678-HpCDD	ND	U	1.24	0
OCDD	ND	U	5.95	0
2378-TCDF	ND	U	0.248	0
12378-PeCDF	ND	U	1.24	0
23478-PeCDF	ND	U	2.48	0
123478-HxCDF	ND	U	1.24	0
123678-HxCDF	ND	U	1.24	0
234678-HxCDF	ND	U	1.24	0
123789-HxCDF	ND	U	1.24	0
1234678-HpCDF	ND	U	1.24	0
1234789-HpCDF	ND	U	1.24	0
OCDF	ND	U	2.48	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.57**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.57**

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696008-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 16:00
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 87.00

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.986		U	0.493	0.986	pg/g
12378-PeCDD	<2.47		U	1.23	2.47	pg/g
123478-HxCDD	<2.47		U	1.23	2.47	pg/g
123678-HxCDD	<4.93		U	2.47	4.93	pg/g
123789-HxCDD	<2.47		U	1.23	2.47	pg/g
1234678-HpCDD	<2.47		U	1.23	2.47	pg/g
OCDD	<9.86		UQ	5.92	12.3	pg/g
2378-TCDF	<0.493		U	0.247	0.986	pg/g
12378-PeCDF	<2.47		U	1.23	2.47	pg/g
23478-PeCDF	<4.93		U	2.47	4.93	pg/g
123478-HxCDF	<4.93		U	1.23	2.47	pg/g
123678-HxCDF	<2.47		U	1.23	2.47	pg/g
234678-HxCDF	<2.47		U	1.23	2.47	pg/g
123789-HxCDF	<2.47		U	1.23	2.47	pg/g
1234678-HpCDF	<2.47		U	1.23	2.47	pg/g
1234789-HpCDF	<2.47		U	1.23	2.47	pg/g
OCDF	<4.93		U	2.47	4.93	pg/g
Total TCDD	<0.986		U	0.493	0.986	pg/g
Total PeCDD	<2.47		U	1.23	2.47	pg/g
Total HxCDD	<2.47		U	2.47	4.93	pg/g
Total HpCDD		1.76	J	1.23	2.47	pg/g
Total TCDF	<0.493		U	0.247	0.986	pg/g
Total PeCDF	<2.47		U	2.47	4.93	pg/g
Total HxCDF	<2.47		U	1.23	2.47	pg/g
Total HpCDF	<2.47		U	1.23	2.47	pg/g

Results of **108906-SB4S1**

Client Sample ID: **108906-SB4S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696008-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 16:00
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 87.00

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	64.0				40.0-135	%
ES 12378-PeCDD	65.0				40.0-135	%
ES 123478-HxCDD	63.0				40.0-135	%
ES 123678-HxCDD	62.0				40.0-135	%
ES 123789-HxCDD	62.0				40.0-135	%
ES 1234678-HpCDD	58.0				40.0-135	%
ES OCDD	35.0*				40.0-135	%
ES 2378-TCDF	62.0				40.0-135	%
ES 12378-PeCDF	66.0				40.0-135	%
ES 23478-PeCDF	66.0				40.0-135	%
ES 123478-HxCDF	57.0				40.0-135	%
ES 123678-HxCDF	59.0				40.0-135	%
ES 234678-HxCDF	57.0				40.0-135	%
ES 123789-HxCDF	61.0				40.0-135	%
ES 1234678-HpCDF	58.0				40.0-135	%
ES 1234789-HpCDF	58.0				40.0-135	%
ES OCDF	42.0				40.0-135	%
CS 37Cl-2378-TCDD	77.0				40.0-135	%
CS 12347-PeCDD	85.0				40.0-135	%
CS 12346-PeCDF	89.0				40.0-135	%
CS 123469-HxCDF	79.0				40.0-135	%
CS 1234689-HpCDF	79.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 06:29**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.14 g**
Prep Extract Vol: **20 uL**
Filename: 230317A26

TEQ Summary

Client Sample ID: 108906-SB4S1
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696008

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.493	0
12378-PeCDD	ND	U	1.23	0
123478-HxCDD	ND	U	1.23	0
123678-HxCDD	ND	U	2.47	0
123789-HxCDD	ND	U	1.23	0
1234678-HpCDD	ND	UEMC	1.23	0
OCDD	ND	UEMC	5.92	0
2378-TCDF	ND	U	0.247	0
12378-PeCDF	ND	U	1.23	0
23478-PeCDF	ND	U	2.47	0
123478-HxCDF	ND	U	1.23	0
123678-HxCDF	ND	U	1.23	0
234678-HxCDF	ND	U	1.23	0
123789-HxCDF	ND	U	1.23	0
1234678-HpCDF	ND	U	1.23	0
1234789-HpCDF	ND	U	1.23	0
OCDF	ND	U	2.47	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.78**
EMPC=0, ND=DL	**3.55**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.78**
EMPC=EMPC, ND=DL	**3.55**

Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696009-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 16:10
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 85.30

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.996		U	0.498	0.996	pg/g
12378-PeCDD	<2.49		U	1.25	2.49	pg/g
123478-HxCDD	<2.49		U	1.25	2.49	pg/g
123678-HxCDD	<4.98		U	2.49	4.98	pg/g
123789-HxCDD	<2.49		U	1.25	2.49	pg/g
1234678-HpCDD	<2.49		U	1.25	2.49	pg/g
OCDD	<9.96		U	5.98	12.5	pg/g
2378-TCDF	<0.498		U	0.249	0.996	pg/g
12378-PeCDF	<2.49		U	1.25	2.49	pg/g
23478-PeCDF	<4.98		U	2.49	4.98	pg/g
123478-HxCDF	<4.98		U	1.25	2.49	pg/g
123678-HxCDF	<2.49		U	1.25	2.49	pg/g
234678-HxCDF	<2.49		U	1.25	2.49	pg/g
123789-HxCDF	<2.49		U	1.25	2.49	pg/g
1234678-HpCDF	<2.49		U	1.25	2.49	pg/g
1234789-HpCDF	<2.49		U	1.25	2.49	pg/g
OCDF	<4.98		U	2.49	4.98	pg/g
Total TCDD	**10.2**			0.498	0.996	pg/g
Total PeCDD	<2.49		U	1.25	2.49	pg/g
Total HxCDD	<2.49		U	2.49	4.98	pg/g
Total HpCDD	<2.49		U	1.25	2.49	pg/g
Total TCDF	<0.498		U	0.249	0.996	pg/g
Total PeCDF	<2.49		U	2.49	4.98	pg/g
Total HxCDF	<2.49		U	1.25	2.49	pg/g
Total HpCDF	<2.49		U	1.25	2.49	pg/g

Results of **108906-SB4S2**

Client Sample ID: **108906-SB4S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696009-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 16:10
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 85.30

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	89.0				40.0-135	%
ES 12378-PeCDD	90.0				40.0-135	%
ES 123478-HxCDD	93.0				40.0-135	%
ES 123678-HxCDD	91.0				40.0-135	%
ES 123789-HxCDD	92.0				40.0-135	%
ES 1234678-HpCDD	91.0				40.0-135	%
ES OCDD	69.0				40.0-135	%
ES 2378-TCDF	84.0				40.0-135	%
ES 12378-PeCDF	91.0				40.0-135	%
ES 23478-PeCDF	91.0				40.0-135	%
ES 123478-HxCDF	83.0				40.0-135	%
ES 123678-HxCDF	87.0				40.0-135	%
ES 234678-HxCDF	85.0				40.0-135	%
ES 123789-HxCDF	90.0				40.0-135	%
ES 1234678-HpCDF	90.0				40.0-135	%
ES 1234789-HpCDF	92.0				40.0-135	%
ES OCDF	74.0				40.0-135	%
CS 37Cl-2378-TCDD	88.0				40.0-135	%
CS 12347-PeCDD	95.0				40.0-135	%
CS 12346-PeCDF	95.0				40.0-135	%
CS 123469-HxCDF	93.0				40.0-135	%
CS 1234689-HpCDF	94.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/20/2023 11:41**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.04 g**
Prep Extract Vol: **20 uL**
Filename: 230320A05

TEQ Summary

Client Sample ID: 108906-SB4S2
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696009

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.498	0
12378-PeCDD	ND	U	1.25	0
123478-HxCDD	ND	U	1.25	0
123678-HxCDD	ND	U	2.49	0
123789-HxCDD	ND	UEMC	1.25	0
1234678-HpCDD	ND	UEMC	1.25	0
OCDD	ND	UEMC	5.98	0
2378-TCDF	ND	U	0.249	0
12378-PeCDF	ND	U	1.25	0
23478-PeCDF	ND	U	2.49	0
123478-HxCDF	ND	U	1.25	0
123678-HxCDF	ND	U	1.25	0
234678-HxCDF	ND	U	1.25	0
123789-HxCDF	ND	U	1.25	0
1234678-HpCDF	ND	U	1.25	0
1234789-HpCDF	ND	U	1.25	0
OCDF	ND	U	2.49	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.80**
EMPC=0, ND=DL	**3.60**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.80**
EMPC=EMPC, ND=DL	**3.60**

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696010-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 14:20
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 87.00

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.991		U	0.496	0.991	pg/g
12378-PeCDD	<2.48		U	1.24	2.48	pg/g
123478-HxCDD	<2.48		U	1.24	2.48	pg/g
123678-HxCDD	<4.96		U	2.48	4.96	pg/g
123789-HxCDD	<2.48		U	1.24	2.48	pg/g
1234678-HpCDD	<2.48		U	1.24	2.48	pg/g
OCDD	**9.98**		J	5.95	12.4	pg/g
2378-TCDF	<0.496		U	0.248	0.991	pg/g
12378-PeCDF	<2.48		U	1.24	2.48	pg/g
23478-PeCDF	<4.96		U	2.48	4.96	pg/g
123478-HxCDF	<4.96		U	1.24	2.48	pg/g
123678-HxCDF	<2.48		U	1.24	2.48	pg/g
234678-HxCDF	<2.48		U	1.24	2.48	pg/g
123789-HxCDF	<2.48		U	1.24	2.48	pg/g
1234678-HpCDF	<2.48		U	1.24	2.48	pg/g
1234789-HpCDF	<2.48		U	1.24	2.48	pg/g
OCDF	<4.96		U	2.48	4.96	pg/g
Total TCDD		7.99		0.496	0.991	pg/g
Total PeCDD	<2.48		U	1.24	2.48	pg/g
Total HxCDD	<2.48		U	2.48	4.96	pg/g
Total HpCDD		1.28	J	1.24	2.48	pg/g
Total TCDF	<0.496		U	0.248	0.991	pg/g
Total PeCDF	<2.48		U	2.48	4.96	pg/g
Total HxCDF	<2.48		U	1.24	2.48	pg/g
Total HpCDF	<2.48		U	1.24	2.48	pg/g

Results of **108906-SB5S1**

Client Sample ID: **108906-SB5S1**
Client Project ID: **1230750**
Lab Sample ID: 32300696010-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 14:20
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 87.00

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	86.0				40.0-135	%
ES 12378-PeCDD	82.0				40.0-135	%
ES 123478-HxCDD	81.0				40.0-135	%
ES 123678-HxCDD	79.0				40.0-135	%
ES 123789-HxCDD	81.0				40.0-135	%
ES 1234678-HpCDD	80.0				40.0-135	%
ES OCDD	62.0				40.0-135	%
ES 2378-TCDF	80.0				40.0-135	%
ES 12378-PeCDF	85.0				40.0-135	%
ES 23478-PeCDF	84.0				40.0-135	%
ES 123478-HxCDF	76.0				40.0-135	%
ES 123678-HxCDF	75.0				40.0-135	%
ES 234678-HxCDF	76.0				40.0-135	%
ES 123789-HxCDF	80.0				40.0-135	%
ES 1234678-HpCDF	79.0				40.0-135	%
ES 1234789-HpCDF	82.0				40.0-135	%
ES OCDF	69.0				40.0-135	%
CS 37Cl-2378-TCDD	89.0				40.0-135	%
CS 12347-PeCDD	95.0				40.0-135	%
CS 12346-PeCDF	94.0				40.0-135	%
CS 123469-HxCDF	88.0				40.0-135	%
CS 1234689-HpCDF	90.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/20/2023 12:28**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.09 g**
Prep Extract Vol: **20 uL**
Filename: 230320A06

TEQ Summary

Client Sample ID: 108906-SB5S1
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696010

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.496	0
12378-PeCDD	ND	U	1.24	0
123478-HxCDD	ND	U	1.24	0
123678-HxCDD	ND	U	2.48	0
123789-HxCDD	ND	U	1.24	0
1234678-HpCDD	ND	UEMC	1.24	0
OCDD	9.98	J	5.95	0.0030
2378-TCDF	ND	U	0.248	0
12378-PeCDF	ND	U	1.24	0
23478-PeCDF	ND	U	2.48	0
123478-HxCDF	ND	U	1.24	0
123678-HxCDF	ND	U	1.24	0
234678-HxCDF	ND	U	1.24	0
123789-HxCDF	ND	U	1.24	0
1234678-HpCDF	ND	U	1.24	0
1234789-HpCDF	ND	U	1.24	0
OCDF	ND	U	2.48	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.79**
EMPC=0, ND=DL	**3.57**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.79**
EMPC=EMPC, ND=DL	**3.57**

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696011-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 14:50
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 79.30

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
2378-TCDD	<0.987		U	0.494	0.987	pg/g
12378-PeCDD	<2.47		U	1.23	2.47	pg/g
123478-HxCDD	<2.47		U	1.23	2.47	pg/g
123678-HxCDD	<4.94		U	2.47	4.94	pg/g
123789-HxCDD	<2.47		U	1.23	2.47	pg/g
1234678-HpCDD	<2.47		U	1.23	2.47	pg/g
OCDD	<9.87		U	5.92	12.3	pg/g
2378-TCDF	<0.494		U	0.247	0.987	pg/g
12378-PeCDF	<2.47		U	1.23	2.47	pg/g
23478-PeCDF	<4.94		U	2.47	4.94	pg/g
123478-HxCDF	<4.94		U	1.23	2.47	pg/g
123678-HxCDF	<2.47		U	1.23	2.47	pg/g
234678-HxCDF	<2.47		U	1.23	2.47	pg/g
123789-HxCDF	<2.47		U	1.23	2.47	pg/g
1234678-HpCDF	<2.47		U	1.23	2.47	pg/g
1234789-HpCDF	<2.47		U	1.23	2.47	pg/g
OCDF	<4.94		U	2.47	4.94	pg/g
Total TCDD	**7.35**			0.494	0.987	pg/g
Total PeCDD	<2.47		U	1.23	2.47	pg/g
Total HxCDD	<2.47		U	2.47	4.94	pg/g
Total HpCDD	<2.47		U	1.23	2.47	pg/g
Total TCDF	**0.845**		J	0.247	0.987	pg/g
Total PeCDF	<2.47		U	2.47	4.94	pg/g
Total HxCDF	<2.47		U	1.23	2.47	pg/g
Total HpCDF	<2.47		U	1.23	2.47	pg/g

Results of **108906-SB5S2**

Client Sample ID: **108906-SB5S2**
Client Project ID: **1230750**
Lab Sample ID: 32300696011-A
Lab Project ID: 32300696

Collection Date: 02/23/2023 14:50
Received Date: 03/01/2023 09:52
Matrix: Soil-Solid as dry weight

Solids (%): 79.30

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qualifier	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	88.0				40.0-135	%
ES 12378-PeCDD	89.0				40.0-135	%
ES 123478-HxCDD	91.0				40.0-135	%
ES 123678-HxCDD	89.0				40.0-135	%
ES 123789-HxCDD	89.0				40.0-135	%
ES 1234678-HpCDD	95.0				40.0-135	%
ES OCDD	75.0				40.0-135	%
ES 2378-TCDF	83.0				40.0-135	%
ES 12378-PeCDF	93.0				40.0-135	%
ES 23478-PeCDF	89.0				40.0-135	%
ES 123478-HxCDF	86.0				40.0-135	%
ES 123678-HxCDF	86.0				40.0-135	%
ES 234678-HxCDF	86.0				40.0-135	%
ES 123789-HxCDF	90.0				40.0-135	%
ES 1234678-HpCDF	93.0				40.0-135	%
ES 1234789-HpCDF	97.0				40.0-135	%
ES OCDF	77.0				40.0-135	%
CS 37Cl-2378-TCDD	88.0				40.0-135	%
CS 12347-PeCDD	94.0				40.0-135	%
CS 12346-PeCDF	98.0				40.0-135	%
CS 123469-HxCDF	92.0				40.0-135	%
CS 1234689-HpCDF	100				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/20/2023 13:16**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10.13 g**
Prep Extract Vol: **20 uL**
Filename: 230320A07

TEQ Summary

Client Sample ID: 108906-SB5S2
Client Project ID: 1230750
Lab Project ID: 32300696
Lab Sample ID: 32300696011

Matrix: Soil-Solid as dry weight
Units: pg/g

TEF: WHO-2005

Results by DoD SW-846 8290A

Parameter	Result	Qualifier	MDL	TEQ Result
2378-TCDD	ND	U	0.494	0
12378-PeCDD	ND	U	1.23	0
123478-HxCDD	ND	U	1.23	0
123678-HxCDD	ND	U	2.47	0
123789-HxCDD	ND	U	1.23	0
1234678-HpCDD	ND	UEMC	1.23	0
OCDD	ND	UEMC	5.92	0
2378-TCDF	ND	U	0.247	0
12378-PeCDF	ND	U	1.23	0
23478-PeCDF	ND	U	2.47	0
123478-HxCDF	ND	U	1.23	0
123678-HxCDF	ND	U	1.23	0
234678-HxCDF	ND	U	1.23	0
123789-HxCDF	ND	U	1.23	0
1234678-HpCDF	ND	UEMC	1.23	0
1234789-HpCDF	ND	U	1.23	0
OCDF	ND	U	2.47	0

TEQ Summaries

EMPC=0, ND=0	**0.00**
EMPC=0, ND=DL/2	**1.78**
EMPC=0, ND=DL	**3.55**
EMPC=EMPC, ND=0	**0.00**
EMPC=EMPC, ND=DL/2	**1.78**
EMPC=EMPC, ND=DL	**3.55**

Batch Summary

Analytical Method: DoD SW-846 8290A

Prep Method: DoD SW-846 3540C
Prep Batch: HXX3371
Prep Date: 03/16/2023 10:07

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 160940 [HXX/3371]	266960	03/18/2023 00:08	HRD2283	HRMS1	PSW
LCS for HBN 160940 [HXX/3371]	266961	03/17/2023 22:34	HRD2283	HRMS1	PSW
108906-SB1S1	32300696001	03/18/2023 00:56	HRD2283	HRMS1	PSW
108906-SB2S1	32300696003	03/18/2023 02:31	HRD2283	HRMS1	PSW
108906-SB2S2	32300696004	03/18/2023 03:19	HRD2283	HRMS1	PSW
108906-SB3S1	32300696005	03/18/2023 04:06	HRD2283	HRMS1	PSW
108906-SB3S2	32300696006	03/18/2023 04:54	HRD2283	HRMS1	PSW
108906-SB3S12	32300696007	03/18/2023 05:41	HRD2283	HRMS1	PSW
108906-SB4S1	32300696008	03/18/2023 06:29	HRD2283	HRMS1	PSW
108906-SB4S2	32300696009	03/20/2023 11:41	HRD2283	HRMS1	PSW
108906-SB5S1	32300696010	03/20/2023 12:28	HRD2283	HRMS1	PSW
108906-SB5S2	32300696011	03/20/2023 13:16	HRD2283	HRMS1	PSW

Method Blank Summary

Blank ID: MB for HBN 160940 [HXX/3371]
Blank Lab ID: 266960
Matrix: Soil-Solid as dry weight
QC for Samples:

32300696001, 32300696003, 32300696004, 32300696005, 32300696006, 32300696007, 32300696008, 32300696009, 32300696010, 32300696011

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units
2378-TCDD	<1.00		U	0.500	1.00	pg/g
12378-PeCDD	<2.50		U	1.25	2.50	pg/g
123478-HxCDD	<2.50		U	1.25	2.50	pg/g
123678-HxCDD	<5.00		U	2.50	5.00	pg/g
123789-HxCDD	<2.50		U	1.25	2.50	pg/g
1234678-HpCDD	<2.50		U	1.25	2.50	pg/g
OCDD	<10.0		U	6.00	12.5	pg/g
2378-TCDF	<0.500		U	0.250	1.00	pg/g
12378-PeCDF	<2.50		U	1.25	2.50	pg/g
23478-PeCDF	<5.00		U	2.50	5.00	pg/g
123478-HxCDF	<5.00		U	1.25	2.50	pg/g
123678-HxCDF	<2.50		U	1.25	2.50	pg/g
234678-HxCDF	<2.50		U	1.25	2.50	pg/g
123789-HxCDF	<2.50		U	1.25	2.50	pg/g
1234678-HpCDF	<2.50		U	1.25	2.50	pg/g
1234789-HpCDF	<2.50		U	1.25	2.50	pg/g
OCDF	<5.00		U	2.50	5.00	pg/g
Total TCDD	<1.00		U	0.500	1.00	pg/g
Total PeCDD	<2.50		U	1.25	2.50	pg/g
Total HxCDD	<2.50		U	2.50	5.00	pg/g
Total HpCDD	<2.50		U	1.25	2.50	pg/g
Total TCDF	<0.500		U	0.250	1.00	pg/g
Total PeCDF	<2.50		U	2.50	5.00	pg/g
Total HxCDF	<2.50		U	1.25	2.50	pg/g
Total HpCDF	<2.50		U	1.25	2.50	pg/g

Method Blank Summary

Blank ID: MB for HBN 160940 [HXX/3371]
Blank Lab ID: 266960
Matrix: Soil-Solid as dry weight
QC for Samples:

32300696001, 32300696003, 32300696004, 32300696005, 32300696006, 32300696007, 32300696008, 32300696009, 32300696010, 32300696011

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	99.0				40.0-135	%
ES 12378-PeCDD	102				40.0-135	%
ES 123478-HxCDD	100				40.0-135	%
ES 123678-HxCDD	99.0				40.0-135	%
ES 123789-HxCDD	100				40.0-135	%
ES 1234678-HpCDD	103				40.0-135	%
ES OCDD	75.0				40.0-135	%
ES 2378-TCDF	91.0				40.0-135	%
ES 12378-PeCDF	102				40.0-135	%
ES 23478-PeCDF	97.0				40.0-135	%
ES 123478-HxCDF	90.0				40.0-135	%
ES 123678-HxCDF	93.0				40.0-135	%
ES 234678-HxCDF	91.0				40.0-135	%
ES 123789-HxCDF	90.0				40.0-135	%
ES 1234678-HpCDF	105				40.0-135	%
ES 1234789-HpCDF	89.0				40.0-135	%
ES OCDF	71.0				40.0-135	%
CS 37Cl-2378-TCDD	94.0				40.0-135	%
CS 12347-PeCDD	100				40.0-135	%
CS 12346-PeCDF	101				40.0-135	%
CS 123469-HxCDF	91.0				40.0-135	%
CS 1234689-HpCDF	93.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/18/2023 00:08**
Dilution: **1**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Prep Initial Wt./Vol.: **10 g**
Prep Extract Vol: **20 uL**
QC CheckCode: 230317A18

Blank Spike Summary

Blank Spike ID: LCS for HBN 160940 [HXX/3371]
Blank Spike Lab ID: 266961
Date Analyzed: 03/17/2023 22:34

Matrix: Soil-Solid as dry weight

QC for Samples: 32300696001, 32300696003, 32300696004, 32300696005, 32300696006, 32300696007, 32300696008, 32300696009, 32300696010, 32300696011

Results by **DoD SW-846 8290A**

	Blank Spike (pg/g)			
Parameter	Spike	Result	Rec (%)	CL
2378-TCDD	20	21.9	110	70.0-128
12378-PeCDD	100	98.8	99	74.0-125
123478-HxCDD	100	104	104	72.0-131
123678-HxCDD	100	110	110	74.0-134
123789-HxCDD	100	105	105	71.0-138
1234678-HpCDD	100	109	109	76.0-125
OCDD	200	217	109	73.0-135
2378-TCDF	20	20.9	105	75.0-135
12378-PeCDF	100	102	102	77.0-131
23478-PeCDF	100	113	113	75.0-128
123478-HxCDF	100	107	107	77.0-130
123678-HxCDF	100	109	109	73.0-134
234678-HxCDF	100	107	107	74.0-133
123789-HxCDF	100	103	103	74.0-135
1234678-HpCDF	100	113	113	73.0-135
1234789-HpCDF	100	111	111	72.0-131
OCDF	200	214	107	66.0-144
Labeled Standards				
ES 2378-TCDD			96	40.0-135
ES 12378-PeCDD			101	40.0-135
ES 123478-HxCDD			98	40.0-135
ES 123678-HxCDD			94	40.0-135
ES 123789-HxCDD			97	40.0-135
ES 1234678-HpCDD			99	40.0-135
ES OCDD			69	40.0-135
ES 2378-TCDF			93	40.0-135
ES 12378-PeCDF			102	40.0-135
ES 23478-PeCDF			96	40.0-135
ES 123478-HxCDF			86	40.0-135
ES 123678-HxCDF			89	40.0-135
ES 234678-HxCDF			88	40.0-135
ES 123789-HxCDF			86	40.0-135
ES 1234678-HpCDF			98	40.0-135
ES 1234789-HpCDF			86	40.0-135
ES OCDF			65	40.0-135
CS 37Cl-2378-TCDD			93	40.0-135
CS 12347-PeCDD			100	40.0-135
CS 12346-PeCDF			99	40.0-135

Blank Spike Summary

Blank Spike ID: LCS for HBN 160940 [HXX/3371]
Blank Spike Lab ID: 266961
Date Analyzed: 03/17/2023 22:34

Matrix: Soil-Solid as dry weight

QC for Samples: 32300696001, 32300696003, 32300696004, 32300696005, 32300696006, 32300696007, 32300696008, 32300696009, 32300696010, 32300696011

Results by **DoD SW-846 8290A**

Parameter	Blank Spike (%) Spike	Result	Rec (%)	CL
CS 123469-HxCDF			89	40.0-135
CS 1234689-HpCDF			90	40.0-135

Batch Information

Analytical Batch: **HRD2283**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**

Prep Batch: **HXX3371**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/9/2023 13:00**
Spike Init Wt./Vol.: **10 g** Extract Vol: **20 uL**

Batch Summary

Analytical Method: DoD SW-846 8290A

Prep Method: DoD SW-846 3540C
Prep Batch: HXX3387
Prep Date: 03/21/2023 16:41

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 161139 [HXX/3387]	267414	03/23/2023 16:56	HRD2284	HRMS1	PSW
LCS for HBN 161139 [HXX/3387]	267415	03/23/2023 15:21	HRD2284	HRMS1	PSW
108906-SB1S2	32300696002	03/23/2023 17:44	HRD2284	HRMS1	PSW

Method Blank Summary

Blank ID: MB for HBN 161139 [HXX/3387]
Blank Lab ID: 267414
QC for Samples:

32300696002

Matrix: Soil-Solid as dry weight

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units
2378-TCDD	<1.00		U	0.500	1.00	pg/g
12378-PeCDD	<2.50		U	1.25	2.50	pg/g
123478-HxCDD	<2.50		U	1.25	2.50	pg/g
123678-HxCDD	<5.00		U	2.50	5.00	pg/g
123789-HxCDD	<2.50		U	1.25	2.50	pg/g
1234678-HpCDD	<2.50		U	1.25	2.50	pg/g
OCDD	<10.0		U	6.00	12.5	pg/g
2378-TCDF	<0.500		U	0.250	1.00	pg/g
12378-PeCDF	<2.50		U	1.25	2.50	pg/g
23478-PeCDF	<5.00		U	2.50	5.00	pg/g
123478-HxCDF	<5.00		U	1.25	2.50	pg/g
123678-HxCDF	<2.50		U	1.25	2.50	pg/g
234678-HxCDF	<2.50		U	1.25	2.50	pg/g
123789-HxCDF	<2.50		U	1.25	2.50	pg/g
1234678-HpCDF	<2.50		U	1.25	2.50	pg/g
1234789-HpCDF	<2.50		U	1.25	2.50	pg/g
OCDF	<5.00		U	2.50	5.00	pg/g
Total TCDD	<1.00		U	0.500	1.00	pg/g
Total PeCDD	<2.50		U	1.25	2.50	pg/g
Total HxCDD	<2.50		U	2.50	5.00	pg/g
Total HpCDD	<2.50		U	1.25	2.50	pg/g
Total TCDF	<0.500		U	0.250	1.00	pg/g
Total PeCDF	<2.50		U	2.50	5.00	pg/g
Total HxCDF	<2.50		U	1.25	2.50	pg/g
Total HpCDF	<2.50		U	1.25	2.50	pg/g

Method Blank Summary

Blank ID: MB for HBN 161139 [HXX/3387]
Blank Lab ID: 267414
QC for Samples:

32300696002

Matrix: Soil-Solid as dry weight

Results by **DoD SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units
Labeled Standards						
ES 2378-TCDD	109				40.0-135	%
ES 12378-PeCDD	111				40.0-135	%
ES 123478-HxCDD	109				40.0-135	%
ES 123678-HxCDD	106				40.0-135	%
ES 123789-HxCDD	110				40.0-135	%
ES 1234678-HpCDD	112				40.0-135	%
ES OCDD	100				40.0-135	%
ES 2378-TCDF	104				40.0-135	%
ES 12378-PeCDF	107				40.0-135	%
ES 23478-PeCDF	108				40.0-135	%
ES 123478-HxCDF	93.0				40.0-135	%
ES 123678-HxCDF	99.0				40.0-135	%
ES 234678-HxCDF	99.0				40.0-135	%
ES 123789-HxCDF	102				40.0-135	%
ES 1234678-HpCDF	109				40.0-135	%
ES 1234789-HpCDF	101				40.0-135	%
ES OCDF	98.0				40.0-135	%
CS 37Cl-2378-TCDD	91.0				40.0-135	%
CS 12347-PeCDD	103				40.0-135	%
CS 12346-PeCDF	102				40.0-135	%
CS 123469-HxCDF	90.0				40.0-135	%
CS 1234689-HpCDF	93.0				40.0-135	%

Batch Information

Analytical Batch: **HRD2284**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**
Analytical Date/Time: **03/23/2023 16:56**
Dilution: **1**

Prep Batch: **HXX3387**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/20/2023 15:25**
Prep Initial Wt./Vol.: **10 g**
Prep Extract Vol: **20 uL**
QC CheckCode: 230323A07

Blank Spike Summary

Blank Spike ID: LCS for HBN 161139 [HXX/3387]
Blank Spike Lab ID: 267415
Date Analyzed: 03/23/2023 15:21

QC for Samples: 32300696002

Matrix: Soil-Solid as dry weight

Results by **DoD SW-846 8290A**

	Blank Spike (pg/g)			
Parameter	Spike	Result	Rec (%)	CL
2378-TCDD	20	23.6	118	70.0-128
12378-PeCDD	100	107	107	74.0-125
123478-HxCDD	100	116	116	72.0-131
123678-HxCDD	100	119	119	74.0-134
123789-HxCDD	100	112	112	71.0-138
1234678-HpCDD	100	119	119	76.0-125
OCDD	200	243	122	73.0-135
2378-TCDF	20	24.8	124	75.0-135
12378-PeCDF	100	110	110	77.0-131
23478-PeCDF	100	120	120	75.0-128
123478-HxCDF	100	117	117	77.0-130
123678-HxCDF	100	120	120	73.0-134
234678-HxCDF	100	122	122	74.0-133
123789-HxCDF	100	111	111	74.0-135
1234678-HpCDF	100	124	124	73.0-135
1234789-HpCDF	100	121	121	72.0-131
OCDF	200	232	116	66.0-144
Labeled Standards				
ES 2378-TCDD			103	40.0-135
ES 12378-PeCDD			103	40.0-135
ES 123478-HxCDD			107	40.0-135
ES 123678-HxCDD			105	40.0-135
ES 123789-HxCDD			108	40.0-135
ES 1234678-HpCDD			104	40.0-135
ES OCDD			86	40.0-135
ES 2378-TCDF			104	40.0-135
ES 12378-PeCDF			109	40.0-135
ES 23478-PeCDF			107	40.0-135
ES 123478-HxCDF			94	40.0-135
ES 123678-HxCDF			94	40.0-135
ES 234678-HxCDF			96	40.0-135
ES 123789-HxCDF			98	40.0-135
ES 1234678-HpCDF			102	40.0-135
ES 1234789-HpCDF			93	40.0-135
ES OCDF			83	40.0-135
CS 37Cl-2378-TCDD			86	40.0-135
CS 12347-PeCDD			95	40.0-135
CS 12346-PeCDF			100	40.0-135

Blank Spike Summary

Blank Spike ID: LCS for HBN 161139 [HXX/3387]
Blank Spike Lab ID: 267415
Date Analyzed: 03/23/2023 15:21

QC for Samples: 32300696002

Matrix: Soil-Solid as dry weight

Results by **DoD SW-846 8290A**

Parameter	Blank Spike (%) Spike	Result	Rec (%)	CL
CS 123469-HxCDF			91	40.0-135
CS 1234689-HpCDF			89	40.0-135

Batch Information

Analytical Batch: **HRD2284**
Analytical Method: **DoD SW-846 8290A**
Instrument: **HRMS1**
Analyst: **PSW**

Prep Batch: **HXX3387**
Prep Method: **DoD SW-846 3540C**
Prep Date/Time: **03/20/2023 15:25**
Spike Init Wt./Vol.: **10 g** Extract Vol: **20 uL**

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CHAIN OF CUSTODY RECORD

Locations Nationwide
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New Jersey Colorado
Texas North Carolina
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323006916

CLIENT:	SGS North America Inc. - Alaska Division	SGS Reference:	SGS Wilmington, NC
CONTACT:	Justin Nelson	PHONE NO:	(907) 562-2343
PROJECT NAME:	1230750	PWSID#:	
		NPDL#:	
REPORTS TO: Justin.Nelson		E-MAIL:	Justin.Nelson@sgs.com; Env.Alaska.RefLabTeam@sgs.com
INVOICE TO:	SGS - Alaska	QUOTE #:	
	env.alaska.accounting@sgs.com	P.O. #:	1230750

Additional Comments: All soils report out in dry weight unless

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: NONE	TYPE C = COMP G = GRAB MI = Multi Incremental Soils: Dioxins				MS	MSD	SGS lab #	Location ID
	108906-SB1S1	02/20/2023	10:30:00	SO	1		X						1230750001	
	108906-SB1S2	02/20/2023	10:50:00	SO	1		X						1230750002	
	108906-SB2S1	02/21/2023	10:40:00	SO	1		X						1230750003	
	108906-SB2S2	02/21/2023	11:30:00	SO	1		X						1230750004	
	108906-SB3S1	02/22/2023	14:35:00	SO	1		X						1230750005	
	108906-SB3S2	02/22/2023	15:00:00	SO	1		X						1230750006	
	108906-SB3S12	02/23/2023	15:30:00	SO	1		X						1230750007	
	108906-SB4S1	02/23/2023	16:00:00	SO	1		X						1230750008	
	108906-SB4S2	02/23/2023	16:10:00	SO	1		X						1230750009	
	108906-SB5S1	02/23/2023	14:20:00	SO	1		X						1230750010	

Relinquished By: (1) Natalia Ukavske	Date 2/28	Time 11am	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 3/1/23	Time 9:52	Received For Laboratory By:

DOD Project? NO

Report to DL (J Flags)? If J- Report as DL/LOD/LOQ. YES

Data Deliverable Requirements: Level 2 + SGS EDD

Cooler ID:

Requested Turnaround Time and-or Special Instructions:

Temp Blank °C: 5.1° or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

REVIEWED

SGS North America Inc.
CHAIN OF CUSTODY RECORD

Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

323000916

CLIENT:	SGS North America Inc. - Alaska Division	SGS Reference:	SGS Wilmington, NC
CONTACT:	Justin Nelson	PHONE NO:	(907) 562-2343
PROJECT NAME:	1230750	PWSID#:	
		NPDL#:	
REPORTS TO:	Justin.Nelson	E-MAIL:	Justin.Nelson@sgs.com; Env.Alaska.RefLabTeam@sgs.com
INVOICE TO:	SGS - Alaska; env.alaska.accounting@sgs.com	QUOTE #:	
		P.O. #:	1230750

Additional Comments: All soils report out in dry weight unless

Page 2 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: NONE	TYPE C = COMP G = GRAB MI = Multi Incremental Soils	Dioxins					MS	MSD	SGS lab #	Location ID
	108906-SB5S2	02/23/2023	14:50:00	SO	1			X							1230750011	

Relinquished By: (1)	Natalia Tekoaste	Date	2/28	Time	11am
Relinquished By: (2)		Date		Time	
Relinquished By: (3)		Date		Time	
Relinquished By: (4)		Date	3/1/23	Time	9:52

Received By:

Received By:

Received By:

Received For Laboratory By: Ashley Owens

DOD Project? NO

Report to DL (J Flags)? YES
If J- Report as DL/LOD/LOQ.

Data Deliverable Requirements: Level 2 + SGS EDD

Cooler ID:

Requested Turnaround Time and-or Special Instructions:

Temp Blank °C: 5.1°
or Ambient [ ]

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

[X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **SGS-NA-AK** Work Order No.: **32300696**

1. _x_ Shipped
   ___ Hand Delivered
   Notes: **FedEx Priority Overnight: 1483 4803 1146**

2. _x_ COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. _x_ Custody Tape on Container
   ___ No Custody Tape

4. _x_ Samples Intact
   ___ Samples Broken / Leaking

5. _x_ Chilled on Receipt Actual Temp.(s) in °C: 5.1 Thermometer ID#: IR4-Probe
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   _x_ Temperature Blank Present
   ___ WV samples-proxy not allowed

6. _x_ Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ TRIZMA
   ___ Additional Preservatives verified (see notes) N/A

8. _x_ Received Within Holding Time
   ___ Not Received Within Holding Time

9. _x_ No Discrepancies Noted
   ___ Discrepancies Noted
   ___ NCDENR notified of Discrepancies*

10. ___ No Headspace present in VOC vials N/A
    ___ Headspace present in VOC vials >6mm

Comments:

Inspected and Logged in by: AMO
Date: 3/1/2023

*NCDENR must be notified when collection, holding time or preservation requirements are not met.

323006916

e: 28Feb23
16.00 LBS

SHIPPING: 38.50
SPECIAL: 6.26
HANDLING: 0.00
0.00 TOTAL: 44.76

OVERNIGHT
83 4803 1146

SHIP DATE: 28FEB23
ACTWGT: 16.00 LB MAN
CAD: 0824383/CAFE3616
DIMS: 24x14x13 IN

BILL SENDER

3/1/2023
9:52
5.1°

VING
MERICA
S DRIVE

NC 28405

REF:

DEPT:

FedEx
Express

WED - 01 MAR 10:30A
PRIORITY OVERNIGHT

1483 4803 1146

NG ILMA

28405
NC-US RDU

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	SGS
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	1230750
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	3/29/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☒ No ☐ N/A ☐
   Comments: *Dioxin samples were sent to SGS in North Carolina for analysis.*

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 1.7° C in the Anchorage laboratory and 5.1° C in North Carolina.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *Data quality/usability considered unaffected; see above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*

- *Sample SB1S2-8270D SIM- The LOQs are elevated due to sample dilution. The sample was diluted because internal standard was added twice.*
- *Sample SB2S1- 8270D SIM- The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*
- *Sample SB3S1- 8270D SIM- The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*
- *Samples SB3S2 and SB3S12- 8270D SIM- Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria due to matrix interference.*
- *Sample SB3S12- 8270D SIM- Surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.*
- *Sample SB4S1- 8270D SIM- The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*
- *Sample SB4S1- 8082A- The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*
- *Sample SB5S1- 8270D SIM- The LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.*

- *MB- AK 102- DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.*
- *MS- 8260D- MS recoveries for cis-1,3-dichloropropene and n-hexane do not meet QC criteria. See LCS for accuracy requirements.*
- *MSD- 8260D- MSD recoveries for trichlorofluoromethane and hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.*
- *MS/MSD- 8260D- RPDs for acetone and 2-butanone (MEK) do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.*
- *Dioxins were analyzed by SGS of Wilmington, NC*

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: *The LOQs for PAH naphthalene and 26 VOCs are greater than the respective ADEC Method Two cleanup levels in at least one sample.*

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *There is a potential that the target analytes are present at concentrations greater than the ADEC cleanup levels, but less than the LOQs.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: Although less than the LOQs, concentrations of GRO (2.25 J mg/kg) and DRO (10.8 J mg/kg) were detected in the method blanks.*

iii. If above LoQ or RL, what samples are affected?
Comments: *The following samples are affected:*
GRO: All project samples are potentially affected.
DRO: All project samples except for Samples FB1 and TB1 are potentially affected.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. GRO in Samples SB1S1, SB1S2, SB2S1, SB2S2, SB3S1, SB4S1, SB4S2, SB5S1, SB5S2, FB1, and TB1 were reported at levels less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 3. The remaining GRO concentrations are greater than 10 times the blank concentration, therefore the results are reported at the detected concentration.*

DRO in Samples SB1S1, SB2S2, SB4S2, SB5S2 were reported at levels less than the LOQ; therefore, the sample concentrations are reported as non-detect at the LOQ and flagged "B" in Table 3. The concentration of DRO detected in Sample SB3S1 is greater than the LOQ but less than 5 times the blank concentration, therefore the results are flagged "B" and reported as non-detect at the detected concentration. The concentrations of DRO detected in Samples SB1S2, SB2S1, and SB5S1 are within 5 and 10 times the blank concentration, therefore the results are flagged "B" and reported at the detected concentration. The remaining DRO concentrations are greater than 10 times the blank concentration, therefore the results are reported at the detected concentration.

.

v. Data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: *The %R for cis-1,2-dichloroethane, hexachlorobutadiene, and trichlorofluoromethane are greater than QC criteria*.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☐ No ☒ N/A ☐
Comments: *The RPDs for 2-butanone and acetone are greater than QC criteria.*

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *All samples are potentially affected*.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *The parent sample was from another work order. Therefore, flagging is not required.*

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: *Surrogate recoveries for 4-bromofluorobenzene and/or 2-methylnaphthalene-d10 are greater than QC criteria in Samples SB3S2 and SB3S12.*

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *The affected analytes are flagged "J+" in Table 3.*

iv. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments:

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: .

iii. If above LoQ or RL, what samples are affected?
Comments: .

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Sample SB3S12 (duplicate of Sample SB3S2) was included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *All RPDs are within QC criteria of 50% for soil*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: *An equipment blank was not included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
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JOB DESCRIPTION

ANC Fire Training Pit

JOB NUMBER

320-97215-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

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

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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
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: 320-97215-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-97215-1

Receipt
The samples were received on 2/28/2023 2:53 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.2º C.

Receipt Exceptions

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): Sample 11 id on container '108906-SB3S12' with date and time of 2-22-2315:30. Labeled per COC. 108906-B2S12 (320-97215-11),

LCMS
Method EPA 537(Mod): Due to the high concentration of Perfluorohexanoic acid (PFHxA), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-657876 and analytical batch 320-660093 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. 108906-B2S1 (320-97215-6)

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was high outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. 108906-B5S11 (320-97215-26)

Method EPA 537(Mod): Results for samples 108906-B1S1 (320-97215-1), 108906-B1S3 (320-97215-3), 108906-B2S1 (320-97215-6), 108906-B2S2 (320-97215-7), 108906-B3S1 (320-97215-12), 108906-B3S2 (320-97215-13), 108906-B3S3 (320-97215-14), 108906-B4S1 (320-97215-17) and 108906-B4S2 (320-97215-18) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method EPA 537(Mod): Results for sample 108906-B1S2 (320-97215-2) was reported from the analysis of a diluted extract due to sample matrix impacting internal standard recovery. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method EPA 537(Mod): Results for sample 108906-B2S3 (320-97215-8) were reported from the analysis of a diluted extract due to matrix impacting internal standard recovery in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method EPA 537(Mod): Results for samples 108906-B2S12 (320-97215-11) and 108906-B4S4 (320-97215-20) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method EPA 537(Mod): Results for samples 108906-B4S11 (320-97215-21), 108906-B5S1 (320-97215-22), 108906-B5S3 (320-97215-24) and 108906-B5S11 (320-97215-26) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 108906-B1S2 (320-97215-2). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

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

Job ID: 320-97215-1 (Continued)

Laboratory: Eurofins Sacramento (Continued)

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-658348.

Method SHAKE: Due to the screen results of the matrix, the initial volumes used for the following samples deviated from the standard procedure: 108906-B1S1 (320-97215-1), 108906-B1S2 (320-97215-2), 108906-B2S1 (320-97215-6), 108906-B2S12 (320-97215-11), 108906-B3S2 (320-97215-13) and 108906-B3S3 (320-97215-14). The reporting limits (RLs) have been adjusted proportionately.
preparation batch 320-657876

Method SHAKE: Due to the screen results on the matrix, the initial volume used for the following sample deviated from the standard procedure: 108906-B5S1 (320-97215-22). The reporting limits (RLs) have been adjusted proportionately.
preparation batch 320-657877

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S1 — Lab Sample ID: 320-97215-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	9.9		1.2	0.18	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.2	0.23	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	41		1.2	0.31	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.3		1.2	0.13	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.73	J	1.2	0.28	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.33	J	1.2	0.23	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	45		1.2	0.17	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.16	J	1.2	0.14	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	260		12	2.5	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B1S2 — Lab Sample ID: 320-97215-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	15		12	1.8	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.5	J	12	2.2	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	130		12	3.1	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.4	J	12	1.3	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	120		12	1.7	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	80		12	2.5	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B1S3 — Lab Sample ID: 320-97215-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.2		0.24	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.073	J	0.24	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	25		2.4	0.37	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B1S4 — Lab Sample ID: 320-97215-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	5.2		0.24	0.037	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		0.24	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.16	J	0.24	0.063	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.3		0.24	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.45		0.24	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B1S5 — Lab Sample ID: 320-97215-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	16		0.25	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0		0.25	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.049	J	0.25	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B2S1 — Lab Sample ID: 320-97215-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	18		1.2	0.18	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.7		1.2	0.22	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	49		1.2	0.31	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.71	J	1.2	0.13	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.70	J	1.2	0.28	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.6		1.2	0.22	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: 108906-B2S1 (Continued) — Lab Sample ID: 320-97215-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	49		1.2	0.17	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.22	J I	1.2	0.14	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	490		12	2.5	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B2S2 — Lab Sample ID: 320-97215-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	19		0.30	0.046	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.1		0.30	0.056	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	2.6		0.30	0.079	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7		0.30	0.056	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	36		1.5	0.22	ug/Kg	5	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B2S3 — Lab Sample ID: 320-97215-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.6	J	2.2	0.33	ug/Kg	10	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.54	J	2.2	0.41	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B2S4 — Lab Sample ID: 320-97215-9

No Detections.

Client Sample ID: 108906-B2S8 — Lab Sample ID: 320-97215-10

No Detections.

Client Sample ID: 108906-B2S12 — Lab Sample ID: 320-97215-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	20		1.1	0.17	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.3		1.1	0.21	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	30		1.1	0.29	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.93	J	1.1	0.21	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	51		1.1	0.16	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	150		11	2.3	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B3S1 — Lab Sample ID: 320-97215-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.54		0.20	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.23		0.20	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.97		0.20	0.054	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.65		0.20	0.022	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	1.2		0.20	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.047	J	0.20	0.030	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.26		0.20	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.20	0.029	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	65		2.0	0.44	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B3S2 — Lab Sample ID: 320-97215-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	27		1.0	0.16	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.1		1.0	0.19	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	39		1.0	0.27	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0		1.0	0.19	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	65		1.0	0.15	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	170		10	2.2	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B3S3 — Lab Sample ID: 320-97215-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	61		1.2	0.18	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.0		1.2	0.22	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	10		1.2	0.31	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.64	J	1.2	0.13	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.65	J	1.2	0.22	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.4		1.2	0.17	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	120		5.9	1.3	ug/Kg	5	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B3S4 — Lab Sample ID: 320-97215-15

No Detections.

Client Sample ID: 108906-B3S6 — Lab Sample ID: 320-97215-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.0		0.23	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.22	J	0.23	0.061	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.36		0.23	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.37		0.23	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B4S1 — Lab Sample ID: 320-97215-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.76		0.21	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.43		0.21	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.8		0.21	0.056	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.9		0.21	0.023	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	2.3		0.21	0.051	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.26		0.21	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.059	J	0.21	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		0.21	0.031	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.027	J	0.21	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.059	J	0.21	0.051	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	74		2.1	0.46	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B4S2 — Lab Sample ID: 320-97215-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	7.0		0.23	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: 108906-B4S2 (Continued) — Lab Sample ID: 320-97215-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	9.3		0.23	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	19		0.23	0.060	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.42		0.23	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.2		0.23	0.048	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	130		2.3	0.33	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B4S3 — Lab Sample ID: 320-97215-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	17		0.26	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.92		0.26	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	2.9		0.26	0.069	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.4		0.26	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		0.26	0.038	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B4S4 — Lab Sample ID: 320-97215-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	1.9		0.22	0.058	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5		0.22	0.041	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9		0.22	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.054	J	0.22	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	43		2.2	0.34	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B4S11 — Lab Sample ID: 320-97215-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.66		0.21	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.40		0.21	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		0.21	0.055	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.8		0.21	0.023	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	2.2		0.21	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.30		0.21	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.066	J	0.21	0.031	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.050	J	0.21	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.21	0.030	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.024	J	0.21	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.071	J	0.21	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	64		2.1	0.45	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B5S1 — Lab Sample ID: 320-97215-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	17		0.98	0.15	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.7		0.98	0.19	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	13		0.98	0.26	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	3.1		0.98	0.11	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.32	J	0.98	0.24	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.89	J	0.98	0.19	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.8		0.98	0.14	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 108906-B5S1 (Continued) — Lab Sample ID: 320-97215-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS) - DL	330		9.8	2.1	ug/Kg	10	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B5S2 — Lab Sample ID: 320-97215-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	10		0.23	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.94		0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.49		0.23	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.12	J	0.23	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B5S3 — Lab Sample ID: 320-97215-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.99		0.22	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.23		0.22	0.042	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.26		0.22	0.042	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		0.22	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		0.22	0.048	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	32		1.1	0.30	ug/Kg	5	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B5S4 — Lab Sample ID: 320-97215-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.39		0.23	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.26		0.23	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.064	J	0.23	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.36		0.23	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B5S11 — Lab Sample ID: 320-97215-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	11		0.21	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.9		0.21	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	8.2		0.21	0.056	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.6		0.21	0.023	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.35		0.21	0.051	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.11	J	0.21	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.048	J	0.21	0.039	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.53		0.21	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.2		0.21	0.031	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.028	J I	0.21	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	190		11	2.3	ug/Kg	50	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-EB1 — Lab Sample ID: 320-97215-27

No Detections.

Client Sample ID: 108906-EB2 — Lab Sample ID: 320-97215-28

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-FB1 — Lab Sample ID: 320-97215-29

No Detections.

Client Sample ID: 108906-FB2 — Lab Sample ID: 320-97215-30

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S1

Date Collected: 02/20/23 10:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-1

Matrix: Solid
Percent Solids: 83.6

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**9.9**		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.2	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorooctanoic acid (PFOA)	**41**		1.2	0.31	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorononanoic acid (PFNA)	**1.3**		1.2	0.13	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorodecanoic acid (PFDA)	**0.73**	**J**	1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.2	0.25	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorododecanoic acid (PFDoA)	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorotridecanoic acid (PFTriA)	ND		1.2	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorobutanesulfonic acid (PFBS)	**0.33**	**J**	1.2	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Perfluorohexanesulfonic acid (PFHxS)	**45**		1.2	0.17	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.16**	**J**	1.2	0.14	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.2	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.24	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.2	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 15:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C4 PFHpA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C4 PFOA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C5 PFNA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C2 PFDA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C2 PFUnA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C2 PFDoA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C2 PFTeDA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C3 PFBS	*71*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
18O2 PFHxS	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C4 PFOS	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
d3-NMeFOSAA	*101*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
d5-NEtFOSAA	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:01*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**260**		12	2.5	ug/Kg	☼	03/02/23 18:20	03/16/23 21:29	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*88*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:29*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.4**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**83.6**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S2

Date Collected: 02/20/23 10:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-2

Matrix: Solid
Percent Solids: 77.6

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**15**		12	1.8	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluoroheptanoic acid (PFHpA)	**5.5**	**J**	12	2.2	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorooctanoic acid (PFOA)	**130**		12	3.1	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorononanoic acid (PFNA)	**1.4**	**J**	12	1.3	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorodecanoic acid (PFDA)	ND		12	2.8	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluoroundecanoic acid (PFUnA)	ND		12	2.5	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorododecanoic acid (PFDoA)	ND		12	1.8	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorotridecanoic acid (PFTriA)	ND		12	1.2	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorotetradecanoic acid (PFTeA)	ND		12	2.2	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorobutanesulfonic acid (PFBS)	ND		12	2.2	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorohexanesulfonic acid (PFHxS)	**120**		12	1.7	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Perfluorooctanesulfonic acid (PFOS)	**80**		12	2.5	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		12	1.4	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		12	2.8	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		12	2.1	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		12	2.4	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		12	1.8	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		12	2.3	ug/Kg	☼	03/02/23 18:20	03/16/23 21:39	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C4 PFHpA	*89*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C4 PFOA	*95*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C5 PFNA	*94*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C2 PFDA	*99*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C2 PFUnA	*99*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C2 PFDoA	*101*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C2 PFTeDA	*90*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C3 PFBS	*83*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
18O2 PFHxS	*86*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C4 PFOS	*82*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
d3-NMeFOSAA	*104*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
d5-NEtFOSAA	*105*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*
13C3 HFPO-DA	*93*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:39*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**22.4**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**77.6**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B1S3

Date Collected: 02/20/23 11:15
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-3

Matrix: Solid
Percent Solids: 84.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorooctanoic acid (PFOA)	ND		0.24	0.063	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorohexanesulfonic acid (PFHxS)	**0.073**	**J**	0.24	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C4 PFHpA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C4 PFOA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C5 PFNA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C2 PFDA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C2 PFUnA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C2 PFDoA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C3 PFBS	*74*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
18O2 PFHxS	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C4 PFOS	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
d5-NEtFOSAA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*
13C3 HFPO-DA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:22*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**25**		2.4	0.37	ug/Kg	☼	03/02/23 18:20	03/16/23 21:49	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:49*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.9**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**84.1**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S4

Date Collected: 02/20/23 12:05
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-4

Matrix: Solid
Percent Solids: 80.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**5.2**		0.24	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorooctanoic acid (PFOA)	**0.16**	**J**	0.24	0.063	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.45**		0.24	0.035	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 15:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C4 PFHpA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C4 PFOA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C5 PFNA	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C2 PFDA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C2 PFUnA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C2 PFDoA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C3 PFBS	*68*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
18O2 PFHxS	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C4 PFOS	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
d3-NMeFOSAA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
d5-NEtFOSAA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*
13C3 HFPO-DA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**19.7**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**80.3**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S5
Date Collected: 02/20/23 13:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-5
Matrix: Solid
Percent Solids: 79.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**16**		0.25	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.25	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorooctanoic acid (PFOA)	ND		0.25	0.066	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorodecanoic acid (PFDA)	ND		0.25	0.060	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorobutanesulfonic acid (PFBS)	**2.0**		0.25	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.049**	**J**	0.25	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.25	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.25	0.029	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.25	0.060	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.25	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.25	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.25	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.25	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 15:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C4 PFHpA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C4 PFOA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C5 PFNA	*87*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C2 PFDA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C2 PFUnA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C2 PFDoA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C2 PFTeDA	*87*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C3 PFBS	*71*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
18O2 PFHxS	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C4 PFOS	*81*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
d3-NMeFOSAA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
d5-NEtFOSAA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*03/02/23 18:20*	*03/11/23 15:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**21.0**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**79.0**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B2S1

Date Collected: 02/21/23 10:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-6

Matrix: Solid
Percent Solids: 83.8

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**18**		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluoroheptanoic acid (PFHpA)	**3.7**		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorooctanoic acid (PFOA)	**49**		1.2	0.31	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorononanoic acid (PFNA)	**0.71**	**J**	1.2	0.13	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorodecanoic acid (PFDA)	**0.70**	**J**	1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.2	0.25	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorotridecanoic acid (PFTriA)	ND		1.2	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Perfluorohexanesulfonic acid (PFHxS)	**49**		1.2	0.17	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.22**	**J I**	1.2	0.14	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.2	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.24	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.2	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 16:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C4 PFHpA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C4 PFOA	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C5 PFNA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C2 PFDA	*107*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C2 PFUnA	*103*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C2 PFDoA	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C2 PFTeDA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C3 PFBS	*81*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
18O2 PFHxS	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C4 PFOS	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
d3-NMeFOSAA	*105*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:13*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**490**		12	2.5	ug/Kg	☼	03/02/23 18:20	03/16/23 21:59	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*103*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:59*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.2**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**83.8**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B2S2
Date Collected: 02/21/23 11:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-7
Matrix: Solid
Percent Solids: 63.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**19**		0.30	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluoroheptanoic acid (PFHpA)	**5.1**		0.30	0.056	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorooctanoic acid (PFOA)	**2.6**		0.30	0.079	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorononanoic acid (PFNA)	ND		0.30	0.033	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorodecanoic acid (PFDA)	ND		0.30	0.071	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluoroundecanoic acid (PFUnA)	ND		0.30	0.062	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorododecanoic acid (PFDoA)	ND		0.30	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorotridecanoic acid (PFTriA)	ND		0.30	0.031	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.30	0.055	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**		0.30	0.056	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.30	0.064	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.30	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.30	0.071	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.30	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.30	0.061	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.30	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.30	0.058	ug/Kg	☼	03/02/23 18:20	03/11/23 16:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C4 PFHpA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C4 PFOA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C5 PFNA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C2 PFDA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C2 PFUnA	*106*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C2 PFDoA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C3 PFBS	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
18O2 PFHxS	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C4 PFOS	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
d3-NMeFOSAA	*108*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
d5-NEtFOSAA	*112*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:33*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**36**		1.5	0.22	ug/Kg	☼	03/02/23 18:20	03/16/23 20:58	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*86*		*50 - 150*	*03/02/23 18:20*	*03/16/23 20:58*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**36.9**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**63.1**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B2S3
Date Collected: 02/21/23 12:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-8
Matrix: Solid
Percent Solids: 85.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.6**	**J**	2.2	0.33	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluoroheptanoic acid (PFHpA)	ND		2.2	0.41	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorooctanoic acid (PFOA)	ND		2.2	0.57	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorononanoic acid (PFNA)	ND		2.2	0.24	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorodecanoic acid (PFDA)	ND		2.2	0.52	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluoroundecanoic acid (PFUnA)	ND		2.2	0.45	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorododecanoic acid (PFDoA)	ND		2.2	0.32	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorotridecanoic acid (PFTriA)	ND		2.2	0.23	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorotetradecanoic acid (PFTeA)	ND		2.2	0.40	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorobutanesulfonic acid (PFBS)	**0.54**	**J**	2.2	0.41	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorohexanesulfonic acid (PFHxS)	ND		2.2	0.31	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Perfluorooctanesulfonic acid (PFOS)	ND		2.2	0.46	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.2	0.25	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.2	0.52	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.2	0.38	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.2	0.44	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.2	0.33	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.2	0.42	ug/Kg	☼	03/02/23 18:20	03/18/23 01:55	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C4 PFHpA	*104*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C4 PFOA	*90*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C5 PFNA	*99*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C2 PFDA	*104*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C2 PFUnA	*106*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C2 PFDoA	*110*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C2 PFTeDA	*103*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C3 PFBS	*89*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
18O2 PFHxS	*91*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C4 PFOS	*93*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
d3-NMeFOSAA	*108*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
d5-NEtFOSAA	*102*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*
13C3 HFPO-DA	*99*		*50 - 150*	*03/02/23 18:20*	*03/18/23 01:55*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.0**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**85.0**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B2S4
Date Collected: 02/21/23 13:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-9
Matrix: Solid
Percent Solids: 78.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.25	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.25	0.048	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorooctanoic acid (PFOA)	ND		0.25	0.067	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.028	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorodecanoic acid (PFDA)	ND		0.25	0.060	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.053	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.25	0.048	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.25	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.25	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.25	0.029	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.25	0.060	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.25	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.25	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.25	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.25	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 16:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C4 PFHpA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C4 PFOA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C5 PFNA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C2 PFDA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C2 PFUnA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C2 PFTeDA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C3 PFBS	*69*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
18O2 PFHxS	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C4 PFOS	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
d3-NMeFOSAA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
d5-NEtFOSAA	*108*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*
13C3 HFPO-DA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 16:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**21.1**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**78.9**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B2S8
Date Collected: 02/21/23 16:55
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-10
Matrix: Solid
Percent Solids: 81.5

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.24	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluoroheptanoic acid (PFHpA)	ND		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorooctanoic acid (PFOA)	ND		0.24	0.063	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.24	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.057	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 17:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C4 PFHpA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C4 PFOA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C5 PFNA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C2 PFDA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C2 PFUnA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C2 PFDoA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C2 PFTeDA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C3 PFBS	*73*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
18O2 PFHxS	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C4 PFOS	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
d3-NMeFOSAA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
d5-NEtFOSAA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*
13C3 HFPO-DA	*83*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**18.5**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**81.5**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B2S12
Date Collected: 02/21/23 15:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-11
Matrix: Solid
Percent Solids: 85.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**20**		1.1	0.17	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluoroheptanoic acid (PFHpA)	**3.3**		1.1	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorooctanoic acid (PFOA)	**30**		1.1	0.29	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorononanoic acid (PFNA)	ND		1.1	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorodecanoic acid (PFDA)	ND		1.1	0.26	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluoroundecanoic acid (PFUnA)	ND		1.1	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorododecanoic acid (PFDoA)	ND		1.1	0.16	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorotridecanoic acid (PFTriA)	ND		1.1	0.11	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.1	0.20	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorobutanesulfonic acid (PFBS)	**0.93**	**J**	1.1	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Perfluorohexanesulfonic acid (PFHxS)	**51**		1.1	0.16	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.1	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.1	0.26	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.1	0.19	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.1	0.17	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.1	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C4 PFHpA	*108*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C4 PFOA	*107*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C5 PFNA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C2 PFDA	*106*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C2 PFUnA	*112*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C2 PFDoA	*110*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C2 PFTeDA	*57*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C3 PFBS	*79*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
18O2 PFHxS	*117*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C4 PFOS	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
d3-NMeFOSAA	*106*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
d5-NEtFOSAA	*105*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:14*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**150**		11	2.3	ug/Kg	☼	03/02/23 18:20	03/18/23 02:05	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*102*		*50 - 150*	*03/02/23 18:20*	*03/18/23 02:05*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**14.7**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**85.3**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B3S1

Date Collected: 02/22/23 14:35
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-12

Matrix: Solid
Percent Solids: 89.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.54**		0.20	0.032	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluoroheptanoic acid (PFHpA)	**0.23**		0.20	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorooctanoic acid (PFOA)	**0.97**		0.20	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorononanoic acid (PFNA)	**0.65**		0.20	0.022	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorodecanoic acid (PFDA)	**1.2**		0.20	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.043	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorododecanoic acid (PFDoA)	**0.047**	**J**	0.20	0.030	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorobutanesulfonic acid (PFBS)	**0.26**		0.20	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Perfluorohexanesulfonic acid (PFHxS)	**2.6**		0.20	0.029	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.032	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 17:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*79*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C4 PFHpA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C4 PFOA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C5 PFNA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C2 PFDA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C2 PFUnA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C2 PFDoA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C3 PFBS	*64*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
18O2 PFHxS	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C4 PFOS	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
d3-NMeFOSAA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
d5-NEtFOSAA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*
13C3 HFPO-DA	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:25*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**65**		2.0	0.44	ug/Kg	☼	03/02/23 18:20	03/16/23 22:19	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*96*		*50 - 150*	*03/02/23 18:20*	*03/16/23 22:19*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**10.6**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B3S1
Date Collected: 02/22/23 14:35
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-12
Matrix: Solid
Percent Solids: 89.4

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	89.4		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B3S2
Date Collected: 02/22/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-13
Matrix: Solid
Percent Solids: 85.6

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**27**		1.0	0.16	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluoroheptanoic acid (PFHpA)	**4.1**		1.0	0.19	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorooctanoic acid (PFOA)	**39**		1.0	0.27	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.0	0.11	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorobutanesulfonic acid (PFBS)	**1.0**		1.0	0.19	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Perfluorohexanesulfonic acid (PFHxS)	**65**		1.0	0.15	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.0	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.0	0.24	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.0	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.0	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.0	0.16	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg	☼	03/02/23 18:20	03/11/23 17:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C4 PFHpA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C4 PFOA	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C5 PFNA	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C2 PFDA	*111*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C2 PFUnA	*113*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C2 PFDoA	*111*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C2 PFTeDA	*54*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C3 PFBS	*87*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
18O2 PFHxS	*107*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C4 PFOS	*107*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
d3-NMeFOSAA	*105*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:35*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**170**		10	2.2	ug/Kg	☼	03/02/23 18:20	03/16/23 22:29	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*91*		*50 - 150*	*03/02/23 18:20*	*03/16/23 22:29*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**14.4**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**85.6**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B3S3
Date Collected: 02/22/23 15:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-14
Matrix: Solid
Percent Solids: 82.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**61**		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluoroheptanoic acid (PFHpA)	**6.0**		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorooctanoic acid (PFOA)	**10**		1.2	0.31	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorononanoic acid (PFNA)	**0.64**	**J**	1.2	0.13	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorodecanoic acid (PFDA)	ND		1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.2	0.25	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorotridecanoic acid (PFTriA)	ND		1.2	0.12	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorobutanesulfonic acid (PFBS)	**0.65**	**J**	1.2	0.22	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		1.2	0.17	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.2	0.14	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.2	0.28	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.2	0.21	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.24	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.2	0.18	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.2	0.23	ug/Kg	☼	03/02/23 18:20	03/11/23 17:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C4 PFHpA	*112*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C4 PFOA	*105*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C5 PFNA	*101*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C2 PFDA	*107*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C2 PFUnA	*102*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C2 PFDoA	*103*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C2 PFTeDA	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C3 PFBS	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
18O2 PFHxS	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C4 PFOS	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
d3-NMeFOSAA	*111*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:45*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**120**		5.9	1.3	ug/Kg	☼	03/02/23 18:20	03/16/23 21:08	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*102*		*50 - 150*	*03/02/23 18:20*	*03/16/23 21:08*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**17.3**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**82.7**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B3S4
Date Collected: 02/22/23 16:45
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-15
Matrix: Solid
Percent Solids: 76.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.24	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.24	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorooctanoic acid (PFOA)	ND		0.24	0.064	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.058	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.24	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.24	0.035	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.028	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.058	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 17:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C4 PFHpA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C4 PFOA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C5 PFNA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C2 PFDA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C2 PFUnA	*101*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C2 PFDoA	*103*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C3 PFBS	*75*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
18O2 PFHxS	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C4 PFOS	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
d3-NMeFOSAA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*
13C3 HFPO-DA	*83*		*50 - 150*	*03/02/23 18:20*	*03/11/23 17:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**23.7**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**76.3**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B3S6

Date Collected: 02/23/23 09:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-16

Matrix: Solid
Percent Solids: 84.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.0**		0.23	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluoroheptanoic acid (PFHpA)	**0.13**	**J**	0.23	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorooctanoic acid (PFOA)	**0.22**	**J**	0.23	0.061	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.055	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorohexanesulfonic acid (PFHxS)	**0.36**		0.23	0.033	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Perfluorooctanesulfonic acid (PFOS)	**0.37**		0.23	0.049	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.055	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 18:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C4 PFHpA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C4 PFOA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C5 PFNA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C2 PFDA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C2 PFUnA	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C3 PFBS	*79*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
18O2 PFHxS	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C4 PFOS	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
d3-NMeFOSAA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*
13C3 HFPO-DA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.0**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**84.0**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B4S1

Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-17

Matrix: Solid
Percent Solids: 87.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.76**		0.21	0.033	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluoroheptanoic acid (PFHpA)	**0.43**		0.21	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorooctanoic acid (PFOA)	**1.8**		0.21	0.056	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorononanoic acid (PFNA)	**1.9**		0.21	0.023	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorodecanoic acid (PFDA)	**2.3**		0.21	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluoroundecanoic acid (PFUnA)	**0.26**		0.21	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.032	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorobutanesulfonic acid (PFBS)	**0.059**	**J**	0.21	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Perfluorohexanesulfonic acid (PFHxS)	**2.8**		0.21	0.031	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.027**	**J**	0.21	0.024	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.059**	**J**	0.21	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	03/02/23 18:20	03/11/23 18:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*80*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C4 PFHpA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C4 PFOA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C5 PFNA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C2 PFDA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C2 PFUnA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C2 PFDoA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C3 PFBS	*66*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
18O2 PFHxS	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C4 PFOS	*78*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
d3-NMeFOSAA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
d5-NEtFOSAA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:26*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**74**		2.1	0.46	ug/Kg	☼	03/02/23 18:20	03/16/23 22:50	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*89*		*50 - 150*	*03/02/23 18:20*	*03/16/23 22:50*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**12.1**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B4S1
Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-17
Matrix: Solid
Percent Solids: 87.9

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	87.9		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B4S2
Date Collected: 02/23/23 16:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-18
Matrix: Solid
Percent Solids: 86.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**7.0**		0.23	0.035	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluoroheptanoic acid (PFHpA)	**9.3**		0.23	0.043	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorooctanoic acid (PFOA)	**19**		0.23	0.060	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.042	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.42**		0.23	0.043	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Perfluorooctanesulfonic acid (PFOS)	**5.2**		0.23	0.048	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.035	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.044	ug/Kg	☼	03/02/23 18:20	03/11/23 18:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C4 PFHpA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C4 PFOA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C5 PFNA	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C2 PFDA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C2 PFUnA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C2 PFDoA	*101*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C3 PFBS	*71*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
18O2 PFHxS	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C4 PFOS	*90*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
d5-NEtFOSAA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*
13C3 HFPO-DA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:36*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**130**		2.3	0.33	ug/Kg	☼	03/02/23 18:20	03/16/23 23:00	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*93*		*50 - 150*	*03/02/23 18:20*	*03/16/23 23:00*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.9**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**86.1**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B4S3

Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-19

Matrix: Solid
Percent Solids: 74.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**17**		0.26	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluoroheptanoic acid (PFHpA)	**0.92**		0.26	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorooctanoic acid (PFOA)	**2.9**		0.26	0.069	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorononanoic acid (PFNA)	ND		0.26	0.029	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.063	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluoroundecanoic acid (PFUnA)	ND		0.26	0.055	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorododecanoic acid (PFDoA)	ND		0.26	0.039	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.027	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.048	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**		0.26	0.050	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorohexanesulfonic acid (PFHxS)	**14**		0.26	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.26	0.056	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.26	0.030	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.26	0.063	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.26	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.26	0.054	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.26	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.26	0.051	ug/Kg	☼	03/02/23 18:20	03/11/23 18:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C4 PFHpA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C4 PFOA	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C5 PFNA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C2 PFDA	*100*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C2 PFUnA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C2 PFDoA	*97*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C3 PFBS	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
18O2 PFHxS	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C4 PFOS	*102*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
d3-NMeFOSAA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**25.7**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**74.3**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B4S4

Date Collected: 02/23/23 17:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-20

Matrix: Solid
Percent Solids: 84.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.041	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorooctanoic acid (PFOA)	**1.9**		0.22	0.058	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.040	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**		0.22	0.041	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		0.22	0.032	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.054**	**J**	0.22	0.047	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.052	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.043	ug/Kg	☼	03/02/23 18:20	03/11/23 18:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C4 PFHpA	*83*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C4 PFOA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C5 PFNA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C2 PFDA	*84*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C2 PFUnA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C2 PFDoA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C3 PFBS	*73*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
18O2 PFHxS	*91*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C4 PFOS	*88*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*
13C3 HFPO-DA	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 18:57*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**43**		2.2	0.34	ug/Kg	☼	03/02/23 18:20	03/18/23 02:15	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*50 - 150*	*03/02/23 18:20*	*03/18/23 02:15*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.7**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**84.3**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B4S11
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-21
Matrix: Solid
Percent Solids: 89.6

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.66		0.21	0.032	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluoroheptanoic acid (PFHpA)	0.40		0.21	0.039	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorooctanoic acid (PFOA)	1.9		0.21	0.055	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorononanoic acid (PFNA)	1.8		0.21	0.023	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorodecanoic acid (PFDA)	2.2		0.21	0.050	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluoroundecanoic acid (PFUnA)	0.30		0.21	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorododecanoic acid (PFDoA)	0.066	J	0.21	0.031	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.038	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorobutanesulfonic acid (PFBS)	0.050	J	0.21	0.039	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.21	0.030	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.024	J	0.21	0.024	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.071	J	0.21	0.050	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.036	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.032	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	03/02/23 18:24	03/11/23 12:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C4 PFHpA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C4 PFOA	*86*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C5 PFNA	*90*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C2 PFDA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C2 PFUnA	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C2 PFDoA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C3 PFBS	*74*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
18O2 PFHxS	*91*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C4 PFOS	*87*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
d3-NMeFOSAA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
d5-NEtFOSAA	*102*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:58*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	64		2.1	0.45	ug/Kg	☼	03/02/23 18:24	03/16/23 12:40	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*92*		*50 - 150*	*03/02/23 18:24*	*03/16/23 12:40*	*10*

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B4S11
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-21
Matrix: Solid
Percent Solids: 89.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	10.4		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	89.6		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B5S1
Date Collected: 02/23/23 14:20
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-22
Matrix: Solid
Percent Solids: 86.8

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**17**		0.98	0.15	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluoroheptanoic acid (PFHpA)	**3.7**		0.98	0.19	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorooctanoic acid (PFOA)	**13**		0.98	0.26	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorononanoic acid (PFNA)	**3.1**		0.98	0.11	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorodecanoic acid (PFDA)	**0.32**	**J**	0.98	0.24	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluoroundecanoic acid (PFUnA)	ND		0.98	0.21	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorododecanoic acid (PFDoA)	ND		0.98	0.15	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorotridecanoic acid (PFTriA)	ND		0.98	0.10	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.98	0.18	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorobutanesulfonic acid (PFBS)	**0.89**	**J**	0.98	0.19	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**		0.98	0.14	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.98	0.11	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.98	0.24	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.98	0.17	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.98	0.20	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.98	0.15	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.98	0.19	ug/Kg	☼	03/02/23 18:24	03/11/23 13:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C4 PFHpA	*102*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C4 PFOA	*108*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C5 PFNA	*105*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C2 PFDA	*106*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C2 PFUnA	*108*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C2 PFDoA	*111*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C2 PFTeDA	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C3 PFBS	*77*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
18O2 PFHxS	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C4 PFOS	*102*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
d3-NMeFOSAA	*104*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
d5-NEtFOSAA	*109*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*
13C3 HFPO-DA	*103*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:08*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**330**		9.8	2.1	ug/Kg	☼	03/02/23 18:24	03/16/23 12:51	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*109*		*50 - 150*	*03/02/23 18:24*	*03/16/23 12:51*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.2**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**86.8**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B5S2
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-23
Matrix: Solid
Percent Solids: 78.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**10**		0.23	0.036	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluoroheptanoic acid (PFHpA)	**0.94**		0.23	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.062	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.026	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.056	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.049	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorobutanesulfonic acid (PFBS)	**3.7**		0.23	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorohexanesulfonic acid (PFHxS)	**0.49**		0.23	0.034	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Perfluorooctanesulfonic acid (PFOS)	**0.12**	**J**	0.23	0.050	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.027	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.056	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.041	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.048	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	03/02/23 18:24	03/11/23 13:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C4 PFHpA	*98*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C4 PFOA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C5 PFNA	*96*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C2 PFDA	*105*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C2 PFUnA	*107*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C2 PFDoA	*107*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C2 PFTeDA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C3 PFBS	*74*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
18O2 PFHxS	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C4 PFOS	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
d3-NMeFOSAA	*108*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
d5-NEtFOSAA	*103*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**21.6**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**78.4**		0.1	0.1	%			03/01/23 14:45	1

Client Sample ID: 108906-B5S3
Date Collected: 02/23/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-24
Matrix: Solid
Percent Solids: 87.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.99**		0.22	0.035	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluoroheptanoic acid (PFHpA)	**0.23**		0.22	0.042	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.025	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.054	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorobutanesulfonic acid (PFBS)	**0.26**		0.22	0.042	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorohexanesulfonic acid (PFHxS)	**18**		0.22	0.032	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Perfluorooctanesulfonic acid (PFOS)	**3.0**		0.22	0.048	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.054	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.046	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.035	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 13:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*97*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C4 PFHpA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C4 PFOA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C5 PFNA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C2 PFDA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C2 PFUnA	*104*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C2 PFDoA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C3 PFBS	*72*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
18O2 PFHxS	*88*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C4 PFOS	*87*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
d5-NEtFOSAA	*101*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*
13C3 HFPO-DA	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:29*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**32**		1.1	0.30	ug/Kg	☼	03/02/23 18:24	03/16/23 12:30	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*89*		*50 - 150*	*03/02/23 18:24*	*03/16/23 12:30*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.0**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**87.0**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B5S4
Date Collected: 02/23/23 15:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-25
Matrix: Solid
Percent Solids: 85.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.39**		0.23	0.035	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluoroheptanoic acid (PFHpA)	**0.26**		0.23	0.043	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.060	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.054	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.047	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.042	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorobutanesulfonic acid (PFBS)	**0.064**	**J**	0.23	0.043	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.36**		0.23	0.033	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.049	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.054	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.046	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.035	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 13:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C4 PFHpA	*98*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C4 PFOA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C5 PFNA	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C2 PFDA	*91*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C2 PFUnA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C3 PFBS	*74*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
18O2 PFHxS	*88*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C4 PFOS	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
d3-NMeFOSAA	*98*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
d5-NEtFOSAA	*101*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*03/02/23 18:24*	*03/11/23 13:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.0**		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	**85.0**		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B5S11
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-26
Matrix: Solid
Percent Solids: 88.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	11		0.21	0.033	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluoroheptanoic acid (PFHpA)	1.9		0.21	0.040	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorooctanoic acid (PFOA)	8.2		0.21	0.056	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorononanoic acid (PFNA)	1.6		0.21	0.023	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorodecanoic acid (PFDA)	0.35		0.21	0.051	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.044	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorododecanoic acid (PFDoA)	0.11	J	0.21	0.032	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorotetradecanoic acid (PFTeA)	0.048	J	0.21	0.039	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorobutanesulfonic acid (PFBS)	0.53		0.21	0.040	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Perfluorohexanesulfonic acid (PFHxS)	4.2		0.21	0.031	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.028	J I	0.21	0.024	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.051	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	03/02/23 18:24	03/11/23 14:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C4 PFHpA	*88*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C4 PFOA	*96*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C5 PFNA	*93*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C2 PFDA	*98*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C2 PFUnA	*103*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C2 PFDoA	*100*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C2 PFTeDA	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C3 PFBS	*76*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
18O2 PFHxS	*90*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C4 PFOS	*84*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
d3-NMeFOSAA	*104*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
d5-NEtFOSAA	*93*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*03/02/23 18:24*	*03/11/23 14:10*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	190		11	2.3	ug/Kg	☼	03/02/23 18:24	03/16/23 13:11	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*89*		*50 - 150*	*03/02/23 18:24*	*03/16/23 13:11*	*50*

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B5S11
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-26
Matrix: Solid
Percent Solids: 88.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	11.3		0.1	0.1	%			03/01/23 14:45	1
Percent Solids (ASTM D 2216)	88.7		0.1	0.1	%			03/01/23 14:45	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-EB1
Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-27
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.1	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		03/05/23 18:44	03/11/23 04:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.47	ng/L		03/05/23 18:44	03/11/23 04:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.1	ng/L		03/05/23 18:44	03/11/23 04:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.1	ng/L		03/05/23 18:44	03/11/23 04:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.21	ng/L		03/05/23 18:44	03/11/23 04:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.5	1.3	ng/L		03/05/23 18:44	03/11/23 04:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.28	ng/L		03/05/23 18:44	03/11/23 04:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		03/05/23 18:44	03/11/23 04:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*100*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C4 PFHpA	*89*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C4 PFOA	*99*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C5 PFNA	*95*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C2 PFDA	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C2 PFUnA	*97*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C2 PFDoA	*92*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C3 PFBS	*79*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
18O2 PFHxS	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C4 PFOS	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
d5-NEtFOSAA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*
13C3 HFPO-DA	*97*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:09*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-EB2
Date Collected: 02/23/23 17:20
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-28
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.76	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.51	ng/L		03/05/23 18:44	03/11/23 04:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		03/05/23 18:44	03/11/23 04:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		03/05/23 18:44	03/11/23 04:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		03/05/23 18:44	03/11/23 04:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.21	ng/L		03/05/23 18:44	03/11/23 04:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.3	ng/L		03/05/23 18:44	03/11/23 04:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		03/05/23 18:44	03/11/23 04:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		03/05/23 18:44	03/11/23 04:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C4 PFHpA	*101*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C4 PFOA	*100*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C5 PFNA	*99*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C2 PFDA	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C2 PFUnA	*102*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C2 PFDoA	*92*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C3 PFBS	*78*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
18O2 PFHxS	*98*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C4 PFOS	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
d3-NMeFOSAA	*101*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
d5-NEtFOSAA	*94*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:19*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-FB1
Date Collected: 02/23/23 14:45
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-29
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.76	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.51	ng/L		03/05/23 18:44	03/11/23 04:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		03/05/23 18:44	03/11/23 04:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		03/05/23 18:44	03/11/23 04:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		03/05/23 18:44	03/11/23 04:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		03/05/23 18:44	03/11/23 04:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.3	ng/L		03/05/23 18:44	03/11/23 04:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		03/05/23 18:44	03/11/23 04:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		03/05/23 18:44	03/11/23 04:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*97*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C4 PFHpA	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C4 PFOA	*93*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C5 PFNA	*91*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C2 PFDA	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C2 PFUnA	*88*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C2 PFDoA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C3 PFBS	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
18O2 PFHxS	*97*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C4 PFOS	*86*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
d3-NMeFOSAA	*82*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
d5-NEtFOSAA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:30*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-FB2
Date Collected: 02/23/23 17:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-30
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.49	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.72	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.62	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.49	ng/L		03/05/23 18:44	03/11/23 04:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		03/05/23 18:44	03/11/23 04:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.0	ng/L		03/05/23 18:44	03/11/23 04:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.1	ng/L		03/05/23 18:44	03/11/23 04:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		03/05/23 18:44	03/11/23 04:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		03/05/23 18:44	03/11/23 04:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		03/05/23 18:44	03/11/23 04:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		03/05/23 18:44	03/11/23 04:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C4 PFHpA	*92*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C4 PFOA	*96*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C5 PFNA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C2 PFDA	*83*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C2 PFUnA	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C2 PFDoA	*85*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C2 PFTeDA	*79*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C3 PFBS	*79*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
18O2 PFHxS	*94*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C4 PFOS	*84*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
d5-NEtFOSAA	*88*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*
13C3 HFPO-DA	*89*		*50 - 150*	*03/05/23 18:44*	*03/11/23 04:40*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-97215-1	108906-B1S1	96	92	99	96	93	96	99	97
320-97215-1 - DL	108906-B1S1								
320-97215-2	108906-B1S2	94	89	95	94	99	99	101	90
320-97215-3	108906-B1S3	86	85	94	90	88	96	98	89
320-97215-3 - DL	108906-B1S3	105							
320-97215-4	108906-B1S4	91	85	92	82	88	91	96	88
320-97215-5	108906-B1S5	87	94	91	87	91	89	89	87
320-97215-5 MS	108906-B1S5	91	92	96	87	90	100	88	92
320-97215-5 MSD	108906-B1S5	103	92	96	91	93	106	96	90
320-97215-6	108906-B2S1	90	92	104	93	107	103	104	96
320-97215-6 - DL	108906-B2S1								
320-97215-7	108906-B2S2	90	99	93	97	94	106	99	80
320-97215-7 - DL	108906-B2S2								
320-97215-8	108906-B2S3	105	104	90	99	104	106	110	103
320-97215-9	108906-B2S4	93	90	97	95	93	94	95	91
320-97215-10	108906-B2S8	90	93	93	93	96	94	92	95
320-97215-11	108906-B2S12	103	108	107	99	106	112	110	57
320-97215-11 - DL	108906-B2S12								
320-97215-12	108906-B3S1	79	89	91	85	92	91	90	88
320-97215-12 - DL	108906-B3S1								
320-97215-13	108906-B3S2	97	94	104	96	111	113	111	54
320-97215-13 - DL	108906-B3S2								
320-97215-14	108906-B3S3	90	112	105	101	107	102	103	100
320-97215-14 - DL	108906-B3S3								
320-97215-15	108906-B3S4	93	85	93	86	95	101	103	98
320-97215-16	108906-B3S6	86	93	98	91	94	100	95	90
320-97215-17	108906-B4S1	80	90	94	88	91	91	94	84
320-97215-17 - DL	108906-B4S1								
320-97215-18	108906-B4S2	91	90	93	100	94	98	101	90
320-97215-18 - DL	108906-B4S2								
320-97215-19	108906-B4S3	94	89	88	94	100	97	97	75
320-97215-20	108906-B4S4	84	83	89	85	84	92	86	86
320-97215-20 - DL	108906-B4S4	99							
320-97215-21	108906-B4S11	92	94	86	90	100	95	99	94
320-97215-21 - DL	108906-B4S11								
320-97215-22	108906-B5S1	101	102	108	105	106	108	111	95
320-97215-22 - DL	108906-B5S1								
320-97215-23	108906-B5S2	90	98	100	96	105	107	107	99
320-97215-24	108906-B5S3	97	99	99	99	100	104	100	94
320-97215-24 - DL	108906-B5S3			89					
320-97215-25	108906-B5S4	99	98	94	95	91	100	95	94
320-97215-25 MS	108906-B5S4	82	90	87	87	83	90	88	82
320-97215-25 MSD	108906-B5S4	89	86	95	81	93	90	93	84
320-97215-26	108906-B5S11	96	88	96	93	98	103	100	92
320-97215-26 - DL	108906-B5S11								
LCS 320-657876/2-A	Lab Control Sample	93	103	99	99	97	103	95	94
LCS 320-657877/2-A	Lab Control Sample	102	89	97	100	93	99	102	94
MB 320-657876/1-A	Method Blank	95	93	89	99	95	95	93	87
MB 320-657877/1-A	Method Blank	88	102	97	92	99	98	91	86

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Job ID: 320-97215-1
Project/Site: ANC Fire Training Pit

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-97215-1	108906-B1S1	71	95	89	101	100	93		
320-97215-1 - DL	108906-B1S1			88					
320-97215-2	108906-B1S2	83	86	82	104	105	93		
320-97215-3	108906-B1S3	74	96	90	92	96	86		
320-97215-3 - DL	108906-B1S3								
320-97215-4	108906-B1S4	68	85	86	89	91	84		
320-97215-5	108906-B1S5	71	91	81	90	99	79		
320-97215-5 MS	108906-B1S5	74	89	90	90	89	94		
320-97215-5 MSD	108906-B1S5	80	100	90	102	98	93		
320-97215-6	108906-B2S1	81	92	90	105	111	96		
320-97215-6 - DL	108906-B2S1			103					
320-97215-7	108906-B2S2	82	91	91	108	112	93		
320-97215-7 - DL	108906-B2S2		86						
320-97215-8	108906-B2S3	89	91	93	108	102	99		
320-97215-9	108906-B2S4	69	93	89	98	108	89		
320-97215-10	108906-B2S8	73	96	84	84	92	83		
320-97215-11	108906-B2S12	79	117	99	106	105	98		
320-97215-11 - DL	108906-B2S12			102					
320-97215-12	108906-B3S1	64	89	85	96	92	82		
320-97215-12 - DL	108906-B3S1			96					
320-97215-13	108906-B3S2	87	107	107	105	104	99		
320-97215-13 - DL	108906-B3S2			91					
320-97215-14	108906-B3S3	82	104	94	111	111	94		
320-97215-14 - DL	108906-B3S3			102					
320-97215-15	108906-B3S4	75	100	97	89	98	83		
320-97215-16	108906-B3S6	79	88	88	89	90	84		
320-97215-17	108906-B4S1	66	84	78	84	97	81		
320-97215-17 - DL	108906-B4S1			89					
320-97215-18	108906-B4S2	71	88	90	92	86	88		
320-97215-18 - DL	108906-B4S2		93						
320-97215-19	108906-B4S3	86	88	102	94	104	98		
320-97215-20	108906-B4S4	73	91	88	92	85	82		
320-97215-20 - DL	108906-B4S4								
320-97215-21	108906-B4S11	74	91	87	99	102	96		
320-97215-21 - DL	108906-B4S11			92					
320-97215-22	108906-B5S1	77	95	102	104	109	103		
320-97215-22 - DL	108906-B5S1			109					
320-97215-23	108906-B5S2	74	95	92	108	103	94		
320-97215-24	108906-B5S3	72	88	87	87	101	95		
320-97215-24 - DL	108906-B5S3								
320-97215-25	108906-B5S4	74	88	92	98	101	94		
320-97215-25 MS	108906-B5S4	64	81	84	88	83	82		
320-97215-25 MSD	108906-B5S4	63	85	84	89	88	81		
320-97215-26	108906-B5S11	76	90	84	104	93	91		
320-97215-26 - DL	108906-B5S11			89					
LCS 320-657876/2-A	Lab Control Sample	81	99	91	103	103	93		
LCS 320-657877/2-A	Lab Control Sample	80	106	96	110	100	98		
MB 320-657876/1-A	Method Blank	82	99	96	94	94	85		
MB 320-657877/1-A	Method Blank	75	99	89	101	92	93		

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-97215-27	108906-EB1	100	89	99	95	90	97	92	84
320-97215-28	108906-EB2	93	101	100	99	90	102	92	86
320-97215-29	108906-FB1	97	90	93	91	90	88	83	83
320-97215-30	108906-FB2	96	92	96	83	83	87	85	79
LCS 320-658348/2-A	Lab Control Sample	95	99	96	97	97	99	88	79
LCSD 320-658348/3-A	Lab Control Sample Dup	99	99	101	106	96	91	91	89
MB 320-658348/1-A	Method Blank	89	92	95	97	90	94	87	80

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS	HFPODA		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)		
320-97215-27	108906-EB1	79	90	87	87	83	97		
320-97215-28	108906-EB2	78	98	90	101	94	98		
320-97215-29	108906-FB1	87	97	86	82	83	94		
320-97215-30	108906-FB2	79	94	84	87	88	89		
LCS 320-658348/2-A	Lab Control Sample	87	100	92	99	93	103		
LCSD 320-658348/3-A	Lab Control Sample Dup	85	100	94	100	89	99		
MB 320-658348/1-A	Method Blank	77	100	87	88	87	96		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-657876/1-A
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 657876

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		03/02/23 18:20	03/11/23 14:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		03/02/23 18:20	03/11/23 14:40	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C4 PFHpA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C4 PFOA	*89*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C5 PFNA	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C2 PFDA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C2 PFUnA	*95*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C2 PFDoA	*93*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C2 PFTeDA	*87*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C3 PFBS	*82*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
18O2 PFHxS	*99*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C4 PFOS	*96*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
d3-NMeFOSAA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
d5-NEtFOSAA	*94*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*
13C3 HFPO-DA	*85*		*50 - 150*	*03/02/23 18:20*	*03/11/23 14:40*	*1*

Lab Sample ID: LCS 320-657876/2-A
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	1.97		ug/Kg		98	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	1.81		ug/Kg		91	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.08		ug/Kg		104	69 - 133
Perfluorononanoic acid (PFNA)	2.00	2.06		ug/Kg		103	72 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-657876/2-A
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	2.00	1.96		ug/Kg		98	69 - 133
Perfluoroundecanoic acid (PFUnA)	2.00	1.98		ug/Kg		99	64 - 136
Perfluorododecanoic acid (PFDoA)	2.00	2.11		ug/Kg		105	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	2.20		ug/Kg		110	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	1.78		ug/Kg		89	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	1.86		ug/Kg		105	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.69		ug/Kg		92	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	1.94		ug/Kg		104	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.10		ug/Kg		105	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.97		ug/Kg		99	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.93		ug/Kg		103	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.99		ug/Kg		100	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	2.15		ug/Kg		114	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.24		ug/Kg		118	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*93*		*50 - 150*
13C4 PFHpA	*103*		*50 - 150*
13C4 PFOA	*99*		*50 - 150*
13C5 PFNA	*99*		*50 - 150*
13C2 PFDA	*97*		*50 - 150*
13C2 PFUnA	*103*		*50 - 150*
13C2 PFDoA	*95*		*50 - 150*
13C2 PFTeDA	*94*		*50 - 150*
13C3 PFBS	*81*		*50 - 150*
18O2 PFHxS	*99*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*
d3-NMeFOSAA	*103*		*50 - 150*
d5-NEtFOSAA	*103*		*50 - 150*
13C3 HFPO-DA	*93*		*50 - 150*

Lab Sample ID: 320-97215-5 MS
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: 108906-B1S5
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	16		2.37	17.3	4	ug/Kg	☼	66	70 - 132
Perfluoroheptanoic acid (PFHpA)	ND		2.37	2.27		ug/Kg	☼	96	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.37	2.32		ug/Kg	☼	98	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97215-5 MS
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: 108906-B1S5
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	ND		2.37	2.47		ug/Kg	☼	104	72 - 129
Perfluorodecanoic acid (PFDA)	ND		2.37	2.61		ug/Kg	☼	110	69 - 133
Perfluoroundecanoic acid (PFUnA)	ND		2.37	2.31		ug/Kg	☼	97	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.37	2.51		ug/Kg	☼	106	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.37	2.63		ug/Kg	☼	111	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.37	2.35		ug/Kg	☼	99	69 - 133
Perfluorobutanesulfonic acid (PFBS)	2.0		2.10	3.74		ug/Kg	☼	84	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	0.049	J	2.16	2.04		ug/Kg	☼	92	67 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		2.20	2.09		ug/Kg	☼	95	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.37	2.59		ug/Kg	☼	110	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.37	2.54		ug/Kg	☼	107	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.21	2.20		ug/Kg	☼	100	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.37	2.33		ug/Kg	☼	99	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.23	2.37		ug/Kg	☼	106	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.23	2.21		ug/Kg	☼	99	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*91*		*50 - 150*
13C4 PFHpA	*92*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*87*		*50 - 150*
13C2 PFDA	*90*		*50 - 150*
13C2 PFUnA	*100*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFTeDA	*92*		*50 - 150*
13C3 PFBS	*74*		*50 - 150*
18O2 PFHxS	*89*		*50 - 150*
13C4 PFOS	*90*		*50 - 150*
d3-NMeFOSAA	*90*		*50 - 150*
d5-NEtFOSAA	*89*		*50 - 150*
13C3 HFPO-DA	*94*		*50 - 150*

Lab Sample ID: 320-97215-5 MSD
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: 108906-B1S5
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	16		2.34	16.2	4	ug/Kg	☼	20	70 - 132	7	30
Perfluoroheptanoic acid (PFHpA)	ND		2.34	2.54		ug/Kg	☼	108	71 - 131	11	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97215-5 MSD
Matrix: Solid
Analysis Batch: 660093

Client Sample ID: 108906-B1S5
Prep Type: Total/NA
Prep Batch: 657876

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	ND		2.34	2.29		ug/Kg	☼	98	69 - 133	1	30
Perfluorononanoic acid (PFNA)	ND		2.34	2.60		ug/Kg	☼	111	72 - 129	5	30
Perfluorodecanoic acid (PFDA)	ND		2.34	2.31		ug/Kg	☼	98	69 - 133	13	30
Perfluoroundecanoic acid (PFUnA)	ND		2.34	2.21		ug/Kg	☼	94	64 - 136	4	30
Perfluorododecanoic acid (PFDoA)	ND		2.34	2.40		ug/Kg	☼	102	69 - 135	4	30
Perfluorotridecanoic acid (PFTriA)	ND		2.34	2.29		ug/Kg	☼	98	66 - 139	14	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.34	2.25		ug/Kg	☼	96	69 - 133	4	30
Perfluorobutanesulfonic acid (PFBS)	2.0		2.08	3.88		ug/Kg	☼	92	72 - 128	4	30
Perfluorohexanesulfonic acid (PFHxS)	0.049	J	2.14	1.98		ug/Kg	☼	91	67 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	ND		2.18	2.08		ug/Kg	☼	96	68 - 136	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.34	2.49		ug/Kg	☼	106	63 - 144	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.34	2.39		ug/Kg	☼	102	61 - 139	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.19	2.27		ug/Kg	☼	103	75 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.34	2.35		ug/Kg	☼	100	77 - 137	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.21	2.55		ug/Kg	☼	115	76 - 136	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.21	2.43		ug/Kg	☼	110	79 - 139	10	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*103*		*50 - 150*
13C4 PFHpA	*92*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*91*		*50 - 150*
13C2 PFDA	*93*		*50 - 150*
13C2 PFUnA	*106*		*50 - 150*
13C2 PFDoA	*96*		*50 - 150*
13C2 PFTeDA	*90*		*50 - 150*
13C3 PFBS	*80*		*50 - 150*
18O2 PFHxS	*100*		*50 - 150*
13C4 PFOS	*90*		*50 - 150*
d3-NMeFOSAA	*102*		*50 - 150*
d5-NEtFOSAA	*98*		*50 - 150*
13C3 HFPO-DA	*93*		*50 - 150*

Lab Sample ID: MB 320-657877/1-A
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 657877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		03/02/23 18:24	03/11/23 12:37	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-657877/1-A
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 657877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		03/02/23 18:24	03/11/23 12:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		03/02/23 18:24	03/11/23 12:37	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*88*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C4 PFHpA	*102*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C4 PFOA	*97*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C5 PFNA	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C2 PFDA	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C2 PFUnA	*98*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C2 PFDoA	*91*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C3 PFBS	*75*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
18O2 PFHxS	*99*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C4 PFOS	*89*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
d3-NMeFOSAA	*101*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
d5-NEtFOSAA	*92*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*03/02/23 18:24*	*03/11/23 12:37*	*1*

Lab Sample ID: LCS 320-657877/2-A
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	1.91		ug/Kg		95	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	2.32		ug/Kg		116	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.99		ug/Kg		99	69 - 133
Perfluorononanoic acid (PFNA)	2.00	2.07		ug/Kg		104	72 - 129
Perfluorodecanoic acid (PFDA)	2.00	2.31		ug/Kg		115	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-657877/2-A
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.00	1.99		ug/Kg		100	64 - 136
Perfluorododecanoic acid (PFDoA)	2.00	2.28		ug/Kg		114	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	1.99		ug/Kg		99	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	2.02		ug/Kg		101	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	2.00		ug/Kg		113	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.59		ug/Kg		87	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	1.81		ug/Kg		98	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.02		ug/Kg		101	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.12		ug/Kg		106	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.87		ug/Kg		100	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	2.05		ug/Kg		103	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	2.02		ug/Kg		107	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.09		ug/Kg		111	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*102*		*50 - 150*
13C4 PFHpA	*89*		*50 - 150*
13C4 PFOA	*97*		*50 - 150*
13C5 PFNA	*100*		*50 - 150*
13C2 PFDA	*93*		*50 - 150*
13C2 PFUnA	*99*		*50 - 150*
13C2 PFDoA	*102*		*50 - 150*
13C2 PFTeDA	*94*		*50 - 150*
13C3 PFBS	*80*		*50 - 150*
18O2 PFHxS	*106*		*50 - 150*
13C4 PFOS	*96*		*50 - 150*
d3-NMeFOSAA	*110*		*50 - 150*
d5-NEtFOSAA	*100*		*50 - 150*
13C3 HFPO-DA	*98*		*50 - 150*

Lab Sample ID: 320-97215-25 MS
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: 108906-B5S4
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	0.39		2.29	2.59		ug/Kg	☼	96	70 - 132
Perfluoroheptanoic acid (PFHpA)	0.26		2.29	2.51		ug/Kg	☼	98	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.29	2.43		ug/Kg	☼	106	69 - 133
Perfluorononanoic acid (PFNA)	ND		2.29	2.33		ug/Kg	☼	102	72 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97215-25 MS
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: 108906-B5S4
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	ND		2.29	2.43		ug/Kg	☼	106	69 - 133
Perfluoroundecanoic acid (PFUnA)	ND		2.29	2.35		ug/Kg	☼	103	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.29	2.38		ug/Kg	☼	104	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.29	2.34		ug/Kg	☼	102	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.29	2.34		ug/Kg	☼	102	69 - 133
Perfluorobutanesulfonic acid (PFBS)	0.064	J	2.03	2.40		ug/Kg	☼	115	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	0.36		2.09	2.30		ug/Kg	☼	93	67 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		2.13	1.98		ug/Kg	☼	93	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.29	2.25		ug/Kg	☼	98	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.29	2.39		ug/Kg	☼	105	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.14	2.11		ug/Kg	☼	99	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.29	2.34		ug/Kg	☼	102	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.16	2.22		ug/Kg	☼	103	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.16	2.57		ug/Kg	☼	119	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*82*		*50 - 150*
13C4 PFHpA	*90*		*50 - 150*
13C4 PFOA	*87*		*50 - 150*
13C5 PFNA	*87*		*50 - 150*
13C2 PFDA	*83*		*50 - 150*
13C2 PFUnA	*90*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFTeDA	*82*		*50 - 150*
13C3 PFBS	*64*		*50 - 150*
18O2 PFHxS	*81*		*50 - 150*
13C4 PFOS	*84*		*50 - 150*
d3-NMeFOSAA	*88*		*50 - 150*
d5-NEtFOSAA	*83*		*50 - 150*
13C3 HFPO-DA	*82*		*50 - 150*

Lab Sample ID: 320-97215-25 MSD
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: 108906-B5S4
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	0.39		2.31	2.52		ug/Kg	☼	92	70 - 132	3	30
Perfluoroheptanoic acid (PFHpA)	0.26		2.31	2.82		ug/Kg	☼	111	71 - 131	12	30
Perfluorooctanoic acid (PFOA)	ND		2.31	2.31		ug/Kg	☼	100	69 - 133	5	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97215-25 MSD
Matrix: Solid
Analysis Batch: 660081

Client Sample ID: 108906-B5S4
Prep Type: Total/NA
Prep Batch: 657877

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	ND		2.31	2.50		ug/Kg	☼	108	72 - 129	7	30
Perfluorodecanoic acid (PFDA)	ND		2.31	2.24		ug/Kg	☼	97	69 - 133	8	30
Perfluoroundecanoic acid (PFUnA)	ND		2.31	2.42		ug/Kg	☼	105	64 - 136	3	30
Perfluorododecanoic acid (PFDoA)	ND		2.31	2.35		ug/Kg	☼	102	69 - 135	1	30
Perfluorotridecanoic acid (PFTriA)	ND		2.31	2.11		ug/Kg	☼	91	66 - 139	11	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.31	2.20		ug/Kg	☼	95	69 - 133	7	30
Perfluorobutanesulfonic acid (PFBS)	0.064	J	2.05	2.16		ug/Kg	☼	102	72 - 128	11	30
Perfluorohexanesulfonic acid (PFHxS)	0.36		2.11	2.36		ug/Kg	☼	95	67 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	ND		2.15	1.95		ug/Kg	☼	91	68 - 136	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.31	2.29		ug/Kg	☼	99	63 - 144	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.31	2.28		ug/Kg	☼	99	61 - 139	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.16	2.10		ug/Kg	☼	97	75 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.31	2.35		ug/Kg	☼	102	77 - 137	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.18	2.35		ug/Kg	☼	108	76 - 136	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.18	2.18		ug/Kg	☼	100	79 - 139	16	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*89*		*50 - 150*
13C4 PFHpA	*86*		*50 - 150*
13C4 PFOA	*95*		*50 - 150*
13C5 PFNA	*81*		*50 - 150*
13C2 PFDA	*93*		*50 - 150*
13C2 PFUnA	*90*		*50 - 150*
13C2 PFDoA	*93*		*50 - 150*
13C2 PFTeDA	*84*		*50 - 150*
13C3 PFBS	*63*		*50 - 150*
18O2 PFHxS	*85*		*50 - 150*
13C4 PFOS	*84*		*50 - 150*
d3-NMeFOSAA	*89*		*50 - 150*
d5-NEtFOSAA	*88*		*50 - 150*
13C3 HFPO-DA	*81*		*50 - 150*

Lab Sample ID: MB 320-658348/1-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 658348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		03/05/23 18:44	03/11/23 03:18	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-658348/1-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 658348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		03/05/23 18:44	03/11/23 03:18	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		03/05/23 18:44	03/11/23 03:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		03/05/23 18:44	03/11/23 03:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		03/05/23 18:44	03/11/23 03:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		03/05/23 18:44	03/11/23 03:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		03/05/23 18:44	03/11/23 03:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		03/05/23 18:44	03/11/23 03:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		03/05/23 18:44	03/11/23 03:18	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*89*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C4 PFHpA	*92*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C4 PFOA	*95*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C5 PFNA	*97*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C2 PFDA	*90*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C2 PFUnA	*94*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C2 PFDoA	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C3 PFBS	*77*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
18O2 PFHxS	*100*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C4 PFOS	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
d3-NMeFOSAA	*88*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
d5-NEtFOSAA	*87*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*03/05/23 18:44*	*03/11/23 03:18*	*1*

Lab Sample ID: LCS 320-658348/2-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 658348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	40.4		ng/L		101	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	44.0		ng/L		110	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	41.1		ng/L		103	71 - 133
Perfluorononanoic acid (PFNA)	40.0	41.8		ng/L		104	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	39.0		ng/L		97	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	42.0		ng/L		105	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-658348/2-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 658348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorododecanoic acid (PFDoA)			40.0	45.1		ng/L		113	72 - 134		
Perfluorotridecanoic acid (PFTriA)			40.0	40.0		ng/L		100	65 - 144		
Perfluorotetradecanoic acid (PFTeA)			40.0	41.1		ng/L		103	71 - 132		
Perfluorobutanesulfonic acid (PFBS)			35.5	35.9		ng/L		101	72 - 130		
Perfluorohexanesulfonic acid (PFHxS)			36.5	35.1		ng/L		96	68 - 131		
Perfluorooctanesulfonic acid (PFOS)			37.2	33.8		ng/L		91	65 - 140		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	41.0		ng/L		103	65 - 136		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	40.6		ng/L		102	61 - 135		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	38.8		ng/L		104	77 - 137		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	41.5		ng/L		104	72 - 132		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	38.0		ng/L		101	76 - 136		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	41.2		ng/L		109	81 - 141		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*95*		*50 - 150*
13C4 PFHpA	*99*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*97*		*50 - 150*
13C2 PFDA	*97*		*50 - 150*
13C2 PFUnA	*99*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFTeDA	*79*		*50 - 150*
13C3 PFBS	*87*		*50 - 150*
18O2 PFHxS	*100*		*50 - 150*
13C4 PFOS	*92*		*50 - 150*
d3-NMeFOSAA	*99*		*50 - 150*
d5-NEtFOSAA	*93*		*50 - 150*
13C3 HFPO-DA	*103*		*50 - 150*

Lab Sample ID: LCSD 320-658348/3-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 658348

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)			40.0	38.6		ng/L		96	72 - 129	5	30
Perfluoroheptanoic acid (PFHpA)			40.0	41.2		ng/L		103	72 - 130	6	30
Perfluorooctanoic acid (PFOA)			40.0	42.0		ng/L		105	71 - 133	2	30
Perfluorononanoic acid (PFNA)			40.0	40.9		ng/L		102	69 - 130	2	30
Perfluorodecanoic acid (PFDA)			40.0	43.1		ng/L		108	71 - 129	10	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-658348/3-A
Matrix: Water
Analysis Batch: 660069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 658348

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)			40.0	44.2		ng/L		110	69 - 133	5	30
Perfluorododecanoic acid (PFDoA)			40.0	47.1		ng/L		118	72 - 134	4	30
Perfluorotridecanoic acid (PFTriA)			40.0	45.8		ng/L		114	65 - 144	13	30
Perfluorotetradecanoic acid (PFTeA)			40.0	40.2		ng/L		101	71 - 132	2	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.2		ng/L		105	72 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	34.5		ng/L		95	68 - 131	2	30
Perfluorooctanesulfonic acid (PFOS)			37.2	35.2		ng/L		95	65 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	43.2		ng/L		108	65 - 136	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	42.3		ng/L		106	61 - 135	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	40.9		ng/L		109	77 - 137	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	40.7		ng/L		102	72 - 132	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	38.6		ng/L		102	76 - 136	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	42.9		ng/L		114	81 - 141	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*99*		*50 - 150*
13C4 PFHpA	*99*		*50 - 150*
13C4 PFOA	*101*		*50 - 150*
13C5 PFNA	*106*		*50 - 150*
13C2 PFDA	*96*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C2 PFDoA	*91*		*50 - 150*
13C2 PFTeDA	*89*		*50 - 150*
13C3 PFBS	*85*		*50 - 150*
18O2 PFHxS	*100*		*50 - 150*
13C4 PFOS	*94*		*50 - 150*
d3-NMeFOSAA	*100*		*50 - 150*
d5-NEtFOSAA	*89*		*50 - 150*
13C3 HFPO-DA	*99*		*50 - 150*

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-97215-1 DU
Matrix: Solid
Analysis Batch: 657557

Client Sample ID: 108906-B1S1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	16.4			15.8		%				4	20
Percent Solids	83.6			84.2		%				0.8	20

Method: D 2216 - Percent Moisture (Continued)

Lab Sample ID: 320-97215-20 DU
Matrix: Solid
Analysis Batch: 657561

Client Sample ID: 108906-B4S4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	15.7			16.2		%				3	20
Percent Solids	84.3			83.8		%				0.6	20

LCMS

Prep Batch: 657876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-1 - DL	108906-B1S1	Total/NA	Solid	SHAKE	
320-97215-1	108906-B1S1	Total/NA	Solid	SHAKE	
320-97215-2	108906-B1S2	Total/NA	Solid	SHAKE	
320-97215-3 - DL	108906-B1S3	Total/NA	Solid	SHAKE	
320-97215-3	108906-B1S3	Total/NA	Solid	SHAKE	
320-97215-4	108906-B1S4	Total/NA	Solid	SHAKE	
320-97215-5	108906-B1S5	Total/NA	Solid	SHAKE	
320-97215-6 - DL	108906-B2S1	Total/NA	Solid	SHAKE	
320-97215-6	108906-B2S1	Total/NA	Solid	SHAKE	
320-97215-7 - DL	108906-B2S2	Total/NA	Solid	SHAKE	
320-97215-7	108906-B2S2	Total/NA	Solid	SHAKE	
320-97215-8	108906-B2S3	Total/NA	Solid	SHAKE	
320-97215-9	108906-B2S4	Total/NA	Solid	SHAKE	
320-97215-10	108906-B2S8	Total/NA	Solid	SHAKE	
320-97215-11 - DL	108906-B2S12	Total/NA	Solid	SHAKE	
320-97215-11	108906-B2S12	Total/NA	Solid	SHAKE	
320-97215-12 - DL	108906-B3S1	Total/NA	Solid	SHAKE	
320-97215-12	108906-B3S1	Total/NA	Solid	SHAKE	
320-97215-13 - DL	108906-B3S2	Total/NA	Solid	SHAKE	
320-97215-13	108906-B3S2	Total/NA	Solid	SHAKE	
320-97215-14 - DL	108906-B3S3	Total/NA	Solid	SHAKE	
320-97215-14	108906-B3S3	Total/NA	Solid	SHAKE	
320-97215-15	108906-B3S4	Total/NA	Solid	SHAKE	
320-97215-16	108906-B3S6	Total/NA	Solid	SHAKE	
320-97215-17 - DL	108906-B4S1	Total/NA	Solid	SHAKE	
320-97215-17	108906-B4S1	Total/NA	Solid	SHAKE	
320-97215-18 - DL	108906-B4S2	Total/NA	Solid	SHAKE	
320-97215-18	108906-B4S2	Total/NA	Solid	SHAKE	
320-97215-19	108906-B4S3	Total/NA	Solid	SHAKE	
320-97215-20 - DL	108906-B4S4	Total/NA	Solid	SHAKE	
320-97215-20	108906-B4S4	Total/NA	Solid	SHAKE	
MB 320-657876/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-657876/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-97215-5 MS	108906-B1S5	Total/NA	Solid	SHAKE	
320-97215-5 MSD	108906-B1S5	Total/NA	Solid	SHAKE	

Prep Batch: 657877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-21 - DL	108906-B4S11	Total/NA	Solid	SHAKE	
320-97215-21	108906-B4S11	Total/NA	Solid	SHAKE	
320-97215-22 - DL	108906-B5S1	Total/NA	Solid	SHAKE	
320-97215-22	108906-B5S1	Total/NA	Solid	SHAKE	
320-97215-23	108906-B5S2	Total/NA	Solid	SHAKE	
320-97215-24 - DL	108906-B5S3	Total/NA	Solid	SHAKE	
320-97215-24	108906-B5S3	Total/NA	Solid	SHAKE	
320-97215-25	108906-B5S4	Total/NA	Solid	SHAKE	
320-97215-26 - DL	108906-B5S11	Total/NA	Solid	SHAKE	
320-97215-26	108906-B5S11	Total/NA	Solid	SHAKE	
MB 320-657877/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-657877/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-97215-25 MS	108906-B5S4	Total/NA	Solid	SHAKE	

LCMS (Continued)

Prep Batch: 657877 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-25 MSD	108906-B5S4	Total/NA	Solid	SHAKE	

Prep Batch: 658348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-27	108906-EB1	Total/NA	Water	3535	
320-97215-28	108906-EB2	Total/NA	Water	3535	
320-97215-29	108906-FB1	Total/NA	Water	3535	
320-97215-30	108906-FB2	Total/NA	Water	3535	
MB 320-658348/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-658348/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-658348/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 660069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-27	108906-EB1	Total/NA	Water	EPA 537(Mod)	658348
320-97215-28	108906-EB2	Total/NA	Water	EPA 537(Mod)	658348
320-97215-29	108906-FB1	Total/NA	Water	EPA 537(Mod)	658348
320-97215-30	108906-FB2	Total/NA	Water	EPA 537(Mod)	658348
MB 320-658348/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	658348
LCS 320-658348/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	658348
LCSD 320-658348/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	658348

Analysis Batch: 660081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-21	108906-B4S11	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-22	108906-B5S1	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-23	108906-B5S2	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-24	108906-B5S3	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-25	108906-B5S4	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-26	108906-B5S11	Total/NA	Solid	EPA 537(Mod)	657877
MB 320-657877/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	657877
LCS 320-657877/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-25 MS	108906-B5S4	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-25 MSD	108906-B5S4	Total/NA	Solid	EPA 537(Mod)	657877

Analysis Batch: 660093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-1	108906-B1S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-3	108906-B1S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-4	108906-B1S4	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-5	108906-B1S5	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-6	108906-B2S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-7	108906-B2S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-9	108906-B2S4	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-10	108906-B2S8	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-11	108906-B2S12	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-12	108906-B3S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-13	108906-B3S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-14	108906-B3S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-15	108906-B3S4	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-16	108906-B3S6	Total/NA	Solid	EPA 537(Mod)	657876

LCMS (Continued)

Analysis Batch: 660093 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-17	108906-B4S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-18	108906-B4S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-19	108906-B4S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-20	108906-B4S4	Total/NA	Solid	EPA 537(Mod)	657876
MB 320-657876/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	657876
LCS 320-657876/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-5 MS	108906-B1S5	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-5 MSD	108906-B1S5	Total/NA	Solid	EPA 537(Mod)	657876

Analysis Batch: 661063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-21 - DL	108906-B4S11	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-22 - DL	108906-B5S1	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-24 - DL	108906-B5S3	Total/NA	Solid	EPA 537(Mod)	657877
320-97215-26 - DL	108906-B5S11	Total/NA	Solid	EPA 537(Mod)	657877

Analysis Batch: 661378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-1 - DL	108906-B1S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-2	108906-B1S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-3 - DL	108906-B1S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-6 - DL	108906-B2S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-7 - DL	108906-B2S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-12 - DL	108906-B3S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-13 - DL	108906-B3S2	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-14 - DL	108906-B3S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-17 - DL	108906-B4S1	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-18 - DL	108906-B4S2	Total/NA	Solid	EPA 537(Mod)	657876

Analysis Batch: 661787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-8	108906-B2S3	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-11 - DL	108906-B2S12	Total/NA	Solid	EPA 537(Mod)	657876
320-97215-20 - DL	108906-B4S4	Total/NA	Solid	EPA 537(Mod)	657876

General Chemistry

Analysis Batch: 657557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-1	108906-B1S1	Total/NA	Solid	D 2216	
320-97215-2	108906-B1S2	Total/NA	Solid	D 2216	
320-97215-3	108906-B1S3	Total/NA	Solid	D 2216	
320-97215-4	108906-B1S4	Total/NA	Solid	D 2216	
320-97215-5	108906-B1S5	Total/NA	Solid	D 2216	
320-97215-6	108906-B2S1	Total/NA	Solid	D 2216	
320-97215-7	108906-B2S2	Total/NA	Solid	D 2216	
320-97215-8	108906-B2S3	Total/NA	Solid	D 2216	
320-97215-9	108906-B2S4	Total/NA	Solid	D 2216	
320-97215-10	108906-B2S8	Total/NA	Solid	D 2216	
320-97215-11	108906-B2S12	Total/NA	Solid	D 2216	
320-97215-12	108906-B3S1	Total/NA	Solid	D 2216	

General Chemistry (Continued)

Analysis Batch: 657557 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-13	108906-B3S2	Total/NA	Solid	D 2216	
320-97215-14	108906-B3S3	Total/NA	Solid	D 2216	
320-97215-15	108906-B3S4	Total/NA	Solid	D 2216	
320-97215-16	108906-B3S6	Total/NA	Solid	D 2216	
320-97215-17	108906-B4S1	Total/NA	Solid	D 2216	
320-97215-18	108906-B4S2	Total/NA	Solid	D 2216	
320-97215-19	108906-B4S3	Total/NA	Solid	D 2216	
320-97215-1 DU	108906-B1S1	Total/NA	Solid	D 2216	

Analysis Batch: 657561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97215-20	108906-B4S4	Total/NA	Solid	D 2216	
320-97215-21	108906-B4S11	Total/NA	Solid	D 2216	
320-97215-22	108906-B5S1	Total/NA	Solid	D 2216	
320-97215-23	108906-B5S2	Total/NA	Solid	D 2216	
320-97215-24	108906-B5S3	Total/NA	Solid	D 2216	
320-97215-25	108906-B5S4	Total/NA	Solid	D 2216	
320-97215-26	108906-B5S11	Total/NA	Solid	D 2216	
320-97215-20 DU	108906-B4S4	Total/NA	Solid	D 2216	

Client Sample ID: 108906-B1S1
Date Collected: 02/20/23 10:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B1S1
Date Collected: 02/20/23 10:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-1
Matrix: Solid
Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 21:29	RS1	EET SAC
Total/NA	Prep	SHAKE			1.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 15:01	K1S	EET SAC

Client Sample ID: 108906-B1S2
Date Collected: 02/20/23 10:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B1S2
Date Collected: 02/20/23 10:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-2
Matrix: Solid
Percent Solids: 77.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			1.09 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		10	1 mL	1 mL	661378	03/16/23 21:39	RS1	EET SAC

Client Sample ID: 108906-B1S3
Date Collected: 02/20/23 11:15
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B1S3
Date Collected: 02/20/23 11:15
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-3
Matrix: Solid
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 21:49	RS1	EET SAC
Total/NA	Prep	SHAKE			5.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 15:22	K1S	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B1S4
Date Collected: 02/20/23 12:05
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B1S4
Date Collected: 02/20/23 12:05
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-4
Matrix: Solid
Percent Solids: 80.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.23 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 15:32	K1S	EET SAC

Client Sample ID: 108906-B1S5
Date Collected: 02/20/23 13:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B1S5
Date Collected: 02/20/23 13:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-5
Matrix: Solid
Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.08 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 15:42	K1S	EET SAC

Client Sample ID: 108906-B2S1
Date Collected: 02/21/23 10:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S1
Date Collected: 02/21/23 10:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-6
Matrix: Solid
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 21:59	RS1	EET SAC
Total/NA	Prep	SHAKE			1.01 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 16:13	K1S	EET SAC

Client Sample ID: 108906-B2S2

Lab Sample ID: 320-97215-7
Date Collected: 02/21/23 11:30
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S2

Lab Sample ID: 320-97215-7
Date Collected: 02/21/23 11:30
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 63.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.34 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	661378	03/16/23 20:58	RS1	EET SAC
Total/NA	Prep	SHAKE			5.34 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 16:33	K1S	EET SAC

Client Sample ID: 108906-B2S3

Lab Sample ID: 320-97215-8
Date Collected: 02/21/23 12:00
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S3

Lab Sample ID: 320-97215-8
Date Collected: 02/21/23 12:00
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.45 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		10	1 mL	1 mL	661787	03/18/23 01:55	K1S	EET SAC

Client Sample ID: 108906-B2S4

Lab Sample ID: 320-97215-9
Date Collected: 02/21/23 13:50
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S4

Lab Sample ID: 320-97215-9
Date Collected: 02/21/23 13:50
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 16:54	K1S	EET SAC

Client Sample ID: 108906-B2S8
Lab Sample ID: 320-97215-10
Date Collected: 02/21/23 16:55
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S8
Lab Sample ID: 320-97215-10
Date Collected: 02/21/23 16:55
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 81.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:04	K1S	EET SAC

Client Sample ID: 108906-B2S12
Lab Sample ID: 320-97215-11
Date Collected: 02/21/23 15:30
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B2S12
Lab Sample ID: 320-97215-11
Date Collected: 02/21/23 15:30
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.08 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661787	03/18/23 02:05	K1S	EET SAC
Total/NA	Prep	SHAKE			1.08 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:14	K1S	EET SAC

Client Sample ID: 108906-B3S1
Lab Sample ID: 320-97215-12
Date Collected: 02/22/23 14:35
Matrix: Solid
Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B3S1
Lab Sample ID: 320-97215-12
Date Collected: 02/22/23 14:35
Matrix: Solid
Date Received: 02/28/23 14:53
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.50 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 22:19	RS1	EET SAC
Total/NA	Prep	SHAKE			5.50 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:25	K1S	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B3S2
Date Collected: 02/22/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B3S2
Date Collected: 02/22/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-13
Matrix: Solid
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.15 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 22:29	RS1	EET SAC
Total/NA	Prep	SHAKE			1.15 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:35	K1S	EET SAC

Client Sample ID: 108906-B3S3
Date Collected: 02/22/23 15:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B3S3
Date Collected: 02/22/23 15:40
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-14
Matrix: Solid
Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.03 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	661378	03/16/23 21:08	RS1	EET SAC
Total/NA	Prep	SHAKE			1.03 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:45	K1S	EET SAC

Client Sample ID: 108906-B3S4
Date Collected: 02/22/23 16:45
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B3S4
Date Collected: 02/22/23 16:45
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-15
Matrix: Solid
Percent Solids: 76.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.41 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 17:55	K1S	EET SAC

Client Sample ID: 108906-B3S6
Date Collected: 02/23/23 09:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B3S6
Date Collected: 02/23/23 09:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-16
Matrix: Solid
Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 18:06	K1S	EET SAC

Client Sample ID: 108906-B4S1
Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B4S1
Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-17
Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.37 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 22:50	RS1	EET SAC
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 18:26	K1S	EET SAC

Client Sample ID: 108906-B4S2
Date Collected: 02/23/23 16:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B4S2
Date Collected: 02/23/23 16:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-18
Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.16 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661378	03/16/23 23:00	RS1	EET SAC
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 18:36	K1S	EET SAC

Client Sample ID: 108906-B4S3
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657557	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B4S3
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-19
Matrix: Solid
Percent Solids: 74.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.15 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 18:47	K1S	EET SAC

Client Sample ID: 108906-B4S4
Date Collected: 02/23/23 17:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B4S4
Date Collected: 02/23/23 17:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-20
Matrix: Solid
Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.43 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661787	03/18/23 02:15	K1S	EET SAC
Total/NA	Prep	SHAKE			5.43 g	10.0 mL	657876	03/02/23 18:20	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660093	03/11/23 18:57	K1S	EET SAC

Client Sample ID: 108906-B4S11
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B4S11
Date Collected: 02/23/23 16:30
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-21
Matrix: Solid
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.37 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661063	03/16/23 12:40	K1S	EET SAC
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 12:58	S1M	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-B5S1
Date Collected: 02/23/23 14:20
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B5S1
Date Collected: 02/23/23 14:20
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-22
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		1.17 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	661063	03/16/23 12:51	K1S	EET SAC
Total/NA	Prep	SHAKE			1.17 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 13:08	S1M	EET SAC

Client Sample ID: 108906-B5S2
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B5S2
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-23
Matrix: Solid
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.48 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 13:18	S1M	EET SAC

Client Sample ID: 108906-B5S3
Date Collected: 02/23/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B5S3
Date Collected: 02/23/23 15:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-24
Matrix: Solid
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.15 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	661063	03/16/23 12:30	K1S	EET SAC
Total/NA	Prep	SHAKE			5.15 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 13:29	S1M	EET SAC

Client Sample ID: 108906-B5S4
Date Collected: 02/23/23 15:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B5S4
Date Collected: 02/23/23 15:10
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-25
Matrix: Solid
Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.20 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 13:39	S1M	EET SAC

Client Sample ID: 108906-B5S11
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			657561	03/01/23 14:45	DAN	EET SAC

Client Sample ID: 108906-B5S11
Date Collected: 02/23/23 14:50
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-26
Matrix: Solid
Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.32 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	50	1 mL	1 mL	661063	03/16/23 13:11	K1S	EET SAC
Total/NA	Prep	SHAKE			5.32 g	10.0 mL	657877	03/02/23 18:24	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660081	03/11/23 14:10	S1M	EET SAC

Client Sample ID: 108906-EB1
Date Collected: 02/23/23 16:00
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-27
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.4 mL	10.0 mL	658348	03/05/23 18:44	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660069	03/11/23 04:09	K1S	EET SAC

Client Sample ID: 108906-EB2
Date Collected: 02/23/23 17:20
Date Received: 02/28/23 14:53

Lab Sample ID: 320-97215-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			279.7 mL	10.0 mL	658348	03/05/23 18:44	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660069	03/11/23 04:19	K1S	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Client Sample ID: 108906-FB1

Lab Sample ID: 320-97215-29

Date Collected: 02/23/23 14:45

Matrix: Water

Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			278.4 mL	10.0 mL	658348	03/05/23 18:44	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660069	03/11/23 04:30	K1S	EET SAC

Client Sample ID: 108906-FB2

Lab Sample ID: 320-97215-30

Date Collected: 02/23/23 17:10

Matrix: Water

Date Received: 02/28/23 14:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			293.3 mL	10.0 mL	658348	03/05/23 18:44	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	660069	03/11/23 04:40	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

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
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-97215-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-97215-1	108906-B1S1	Solid	02/20/23 10:30	02/28/23 14:53
320-97215-2	108906-B1S2	Solid	02/20/23 10:50	02/28/23 14:53
320-97215-3	108906-B1S3	Solid	02/20/23 11:15	02/28/23 14:53
320-97215-4	108906-B1S4	Solid	02/20/23 12:05	02/28/23 14:53
320-97215-5	108906-B1S5	Solid	02/20/23 13:30	02/28/23 14:53
320-97215-6	108906-B2S1	Solid	02/21/23 10:40	02/28/23 14:53
320-97215-7	108906-B2S2	Solid	02/21/23 11:30	02/28/23 14:53
320-97215-8	108906-B2S3	Solid	02/21/23 12:00	02/28/23 14:53
320-97215-9	108906-B2S4	Solid	02/21/23 13:50	02/28/23 14:53
320-97215-10	108906-B2S8	Solid	02/21/23 16:55	02/28/23 14:53
320-97215-11	108906-B2S12	Solid	02/21/23 15:30	02/28/23 14:53
320-97215-12	108906-B3S1	Solid	02/22/23 14:35	02/28/23 14:53
320-97215-13	108906-B3S2	Solid	02/22/23 15:00	02/28/23 14:53
320-97215-14	108906-B3S3	Solid	02/22/23 15:40	02/28/23 14:53
320-97215-15	108906-B3S4	Solid	02/22/23 16:45	02/28/23 14:53
320-97215-16	108906-B3S6	Solid	02/23/23 09:50	02/28/23 14:53
320-97215-17	108906-B4S1	Solid	02/23/23 16:00	02/28/23 14:53
320-97215-18	108906-B4S2	Solid	02/23/23 16:10	02/28/23 14:53
320-97215-19	108906-B4S3	Solid	02/23/23 16:30	02/28/23 14:53
320-97215-20	108906-B4S4	Solid	02/23/23 17:00	02/28/23 14:53
320-97215-21	108906-B4S11	Solid	02/23/23 16:30	02/28/23 14:53
320-97215-22	108906-B5S1	Solid	02/23/23 14:20	02/28/23 14:53
320-97215-23	108906-B5S2	Solid	02/23/23 14:50	02/28/23 14:53
320-97215-24	108906-B5S3	Solid	02/23/23 15:00	02/28/23 14:53
320-97215-25	108906-B5S4	Solid	02/23/23 15:10	02/28/23 14:53
320-97215-26	108906-B5S11	Solid	02/23/23 14:50	02/28/23 14:53
320-97215-27	108906-EB1	Water	02/23/23 16:00	02/28/23 14:53
320-97215-28	108906-EB2	Water	02/23/23 17:20	02/28/23 14:53
320-97215-29	108906-FB1	Water	02/23/23 14:45	02/28/23 14:53
320-97215-30	108906-FB2	Water	02/23/23 17:10	02/28/23 14:53

Eurofins Sacramento
880 Riverside Parkway

West Sacramento, CA 95605-1500
phone 916.373.5600 fax 303.467.7248

Chain of Custody Record

eurofins | Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Dan McMahon	Site Contact: Alec Rizzo	Date: 2/24/23	COC No:
Shannon & Wilson	Email: dan.mcmahon@shanwil.com	Lab Contact: David Alltucker	Carrier: AK Air	1 of 3 COCs
5430 Fairbanks St, Suite 3	Tel/Fax:			TALS Project #:
Anchorage AK 99518	Analysis Turnaround Time			Sampler: AG, ZT, AR
907-561-2120 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below			Walk-in Client:
Project Name: ANC Fire Training Pit	☑ 2 weeks			Lab Sampling:
Site:	☐ 1 week			Job / SDG No.:
P O # 108906	☐ 2 days ☐ 1 day			

320-97215 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PFAS- QSM Table B-15	Sample Specific Notes:
108906-B1S1	2/20/23	1030	G	S	1			X	
108906-B1S2	2/20/23	1050	G	S	1			X	
108906-B1S3	2/20/23	1115	G	S	1			X	
108906-B1S4	2/20/23	1205	G	S	1			X	
108906-B1S5	2/20/23	1330	G	S	1			X	
108906-B2S1	2/21/23	1040	G	S	1			X	
108906-B2S2	2/21/23	1130	G	S	1			X	
108906-B2S3	2/21/23	1200	G	S	1			X	
108906-B2S4	2/21/23	1350	G	S	1			X	
108906-B2S8	2/21/23	1655	G	S	1			X	
108906-B2S12	2/21/23	1530	G	S	1			X	
								1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 1.2 Corr'd: 1.2 | Therm ID No.: CT1

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: ZT Zach T	Shannon+Wilson	2/27 10:00	Received by:	EETCA	2-28-23 1453
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Eurofins Sacramento
880 Riverside Parkway

West Sacramento, CA 95605-1500
phone 916.373.5600 fax 303.467.7248

Chain of Custody Record

eurofins | Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Environment Testing America

Client Contact	**Project Manager:** Dan McMahon	**Site Contact:** Alec Rizzo	**Date:** 2/24/23	COC No:
Shannon & Wilson	**Email:** dan.mcmahon@shanwil.com	**Lab Contact:** David Alltucker	**Carrier:** AK Air	2 of 3 COCs
5430 Fairbanks St, Suite 3	**Tel/Fax:**			TALS Project #:
Anchorage AK 99518	**Analysis Turnaround Time**			Sampler: AG, ZT, AR
907-561-2120 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
	TAT if different from Below			Walk-in Client:
Project Name: ANC Fire Training Pit	☑ 2 weeks			Lab Sampling:
Site:	☐ 1 week			
P O # 108906	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PFAS- QSM Table B-15	Sample Specific Notes:
108906-B3S1	2/22/23	1435	G	S	1			X	
108906-B3S2	2/22/23	1500	G	S	1			X	
108906-B3S3	2/22/23	1540	G	S	1			X	
108906-B3S4	2/22/23	1645	G	S	1			X	
108906-B3S6	2/23/23	0950	G	S	1			X	
108906-B4S1	2/23/23	1600	G	S	1			X	
108906-B4S2	2/23/23	1610	G	S	1			X	
108906-B4S3	2/23/23	1630	G	S	1			X	
108906-B4S4	2/23/23	1700	G	S	1			X	
108906-B4S11	2/23/23	1630	G	S	1			X	
								1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 1.2 Corr'd: 1.2 | Therm ID No.: 211

Relinquished by: ZT Zant	Company: Shannon & Wilson	Date/Time: 2/27 10:00	Received by:	Company: EETCA	Date/Time: 2-28-23 1453
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

3/29/2023

Eurofins Sacramento
880 Riverside Parkway

West Sacramento, CA 95605-1500
phone 916.373.5600 fax 303.467.7248

Chain of Custody Record

eurofins | Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Environment Testing America

Client Contact	Project Manager: Dan McMahon	Site Contact: Alec Rizzo	Date: 2/24/23	COC No:
Shannon & Wilson	Email: dan.mcmahon@shanwil.com	Lab Contact: David Alltucker	Carrier: AK Air	3 of 3 COCs
5430 Fairbanks St, Suite 3	Tel/Fax:			TALS Project #:
Anchorage AK 99518	Analysis Turnaround Time			Sampler: AG, ZT, AR
907-561-2120 Phone	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
Project Name: ANC Fire Training Pit	☑ 2 weeks			Lab Sampling:
Site:	☐ 1 week			Job / SDG No.:
P O # 108906	☐ 2 days ☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PFAS- QSM Table B-15	Sample Specific Notes:
108906-B5S1	2/23/23	1420	G	S	1			X	
108906-B5S2	2/23/23	1450	G	S	1			X	
108906-B5S3	2/23/23	1500	G	S	1			X	
108906-B5S4	2/23/23	1510	G	S	1			X	
108906-B5S11	2/23/23	1450	G	S	1			X	
108906-EB1	2/22/23	1600	G	W	2			X	
108906-EB2	2/23/23	1720	G	W	2			X	
108906-FB1	2/23/23	1445	G	W	2			X	
108906-FB2	2/23/23	1710	G	W	2			X	
								1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: 1.2 Corr'd: 1.2	Therm ID No.: 211

Relinquished by: Zach T	Company: Shannon & Wilson	Date/Time: 2/27 10:00	Received by:	Company: EETCA	Date/Time: 2-28-23 1453
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

3/29/2023

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-97215-1

Login Number: 97215
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	SEAL
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-97215-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	3/29/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 1.2° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: *The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): Sample 11 ID on container '108906-SB3S12' with date and time of 2-22-2315:30. Labeled per COC. 108906-B2S12 (320-97215-11).*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *Data quality/usability considered unaffected; see above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*

- *Method EPA 537(Mod): Due to the high concentration of Perfluorohexanoic acid (PFHxA), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-657876 and analytical batch 320-660093 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.*

- *Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. 108906-B2S1 (320-97215-6)*

- *Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was high outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. 108906-B5S11 (320-97215-26)*

- *Method EPA 537(Mod): Results for samples 108906-B1S1 (320-97215-1), 108906-B1S3 (320-97215-3), 108906-B2S1 (320-97215-6), 108906-B2S2 (320-97215-7), 108906-B3S1 (320-97215-12), 108906-B3S2 (320-97215-13), 108906-B3S3 (320-97215-14), 108906-B4S1 (320-97215-17) and 108906-B4S2 (320-97215-18) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.*

- *Method EPA 537(Mod): Results for sample 108906-B1S2 (320-97215-2) was reported from the analysis of a diluted extract due to sample matrix impacting internal standard recovery. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.*

- *Method EPA 537(Mod): Results for sample 108906-B2S3 (320-97215-8) were reported from the analysis of a diluted extract due to matrix impacting internal standard recovery in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.*

- *Method EPA 537(Mod): Results for samples 108906-B2S12 (320-97215-11) and 108906-B4S4 (320-97215-20) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.*

- *Method EPA 537(Mod): Results for samples 108906-B4S11 (320-97215-21), 108906-B5S1 (320-97215-22), 108906-B5S3 (320-97215-24) and 108906-B5S11 (320-97215-26) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.*

- *Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 108906-B1S2 (320-97215-2). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.*

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: .*

iii. If above LoQ or RL, what samples are affected?
Comments: *.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: *.*

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *According to the case narrative, due to the high concentration of Perfluorohexanoic acid (PFHxA), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-657876 and analytical batch 320-660093 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Samples B2S12 (duplicate of Sample B2S2), B4S11 (duplicate of B4S1), and B5S11 (duplicate of Sample B5S1) were included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *All RPDs are within QC criteria of 50% for soil.*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: *Two equipment blanks (EB1 and EB2) were included in the work order.*

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

Generated 7/28/2023 2:59:30 PM

JOB DESCRIPTION

ANC Fire Training Area

JOB NUMBER

320-102392-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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

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Authorization

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Authorized for release by
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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Qualifiers

LCMS

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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
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: 320-102392-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-102392-1

Receipt
The samples were received on 7/11/2023 12:46 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9º C.

LCMS
Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 108906-SB11S1 (320-102392-1)

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

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

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S1 — Lab Sample ID: 320-102392-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.17	J B	0.29	0.046	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.092	J	0.29	0.078	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.28	J	0.29	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.12	J I	0.29	0.063	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB11S2 — Lab Sample ID: 320-102392-2

No Detections.

Client Sample ID: 108906-SB11S3 — Lab Sample ID: 320-102392-3

No Detections.

Client Sample ID: 108906-SB11S4 — Lab Sample ID: 320-102392-4

No Detections.

Client Sample ID: 108906-SB11S5 — Lab Sample ID: 320-102392-5

No Detections.

Client Sample ID: 108906-SB11S15 — Lab Sample ID: 320-102392-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S1
Date Collected: 07/06/23 09:15
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-1
Matrix: Solid
Percent Solids: 63.2

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.17**	**J B**	0.29	0.046	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.056	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorooctanoic acid (PFOA)	**0.092**	**J**	0.29	0.078	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorononanoic acid (PFNA)	ND		0.29	0.032	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorodecanoic acid (PFDA)	ND		0.29	0.070	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluoroundecanoic acid (PFUnA)	ND		0.29	0.062	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorododecanoic acid (PFDoA)	ND		0.29	0.044	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorotridecanoic acid (PFTriA)	ND		0.29	0.031	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.29	0.054	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.056	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**	**J**	0.29	0.043	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Perfluorooctanesulfonic acid (PFOS)	**0.12**	**J I**	0.29	0.063	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.29	0.034	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.29	0.070	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.29	0.051	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.29	0.060	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.29	0.046	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.29	0.057	ug/Kg	☼	07/13/23 04:31	07/15/23 23:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C4 PFHpA	*90*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C4 PFOA	*93*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C5 PFNA	*93*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C2 PFDA	*95*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C2 PFUnA	*89*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C2 PFDoA	*78*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C3 PFBS	*79*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
18O2 PFHxS	*80*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C4 PFOS	*78*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
d3-NMeFOSAA	*93*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*
13C3 HFPO-DA	*82*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:56*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**36.8**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**63.2**		0.1	0.1	%			07/12/23 12:34	1

Client Sample ID: 108906-SB11S2

Date Collected: 07/06/23 10:10
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-2

Matrix: Solid
Percent Solids: 86.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.033	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.040	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.056	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.023	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.051	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.045	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.032	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.040	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.031	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.046	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.024	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.051	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.044	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	07/13/23 04:31	07/16/23 00:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C4 PFHpA	*104*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C4 PFOA	*100*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C5 PFNA	*108*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C2 PFDA	*113*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C2 PFUnA	*108*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C2 PFDoA	*100*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C2 PFTeDA	*85*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C3 PFBS	*90*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
18O2 PFHxS	*96*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C4 PFOS	*102*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
d3-NMeFOSAA	*109*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
d5-NEtFOSAA	*116*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*
13C3 HFPO-DA	*100*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.1**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**86.9**		0.1	0.1	%			07/12/23 12:34	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S3
Date Collected: 07/06/23 10:35
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-3
Matrix: Solid
Percent Solids: 83.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.036	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.044	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.062	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.026	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.056	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.049	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.025	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.034	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.050	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.027	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.056	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.041	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.048	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.046	ug/Kg	☼	07/13/23 04:31	07/16/23 00:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C4 PFHpA	*94*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C4 PFOA	*88*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C5 PFNA	*96*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C2 PFDA	*100*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C2 PFUnA	*89*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C2 PFDoA	*87*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C2 PFTeDA	*73*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C3 PFBS	*76*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
18O2 PFHxS	*77*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C4 PFOS	*83*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
d3-NMeFOSAA	*94*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
d5-NEtFOSAA	*93*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*
13C3 HFPO-DA	*90*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.3**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**83.7**		0.1	0.1	%			07/12/23 12:34	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S4
Date Collected: 07/06/23 12:30
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-4
Matrix: Solid
Percent Solids: 85.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.034	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.042	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.059	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.053	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.032	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.048	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.053	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.043	ug/Kg	☼	07/13/23 04:31	07/16/23 00:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C4 PFHpA	*99*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C4 PFOA	*94*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C5 PFNA	*99*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C2 PFDA	*101*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C2 PFUnA	*93*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C2 PFDoA	*91*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C2 PFTeDA	*76*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C3 PFBS	*74*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
18O2 PFHxS	*83*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C4 PFOS	*87*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**14.3**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**85.7**		0.1	0.1	%			07/12/23 12:34	1

Client Sample ID: 108906-SB11S5

Date Collected: 07/07/23 17:10
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-5

Matrix: Solid
Percent Solids: 77.5

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.25	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.25	0.047	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorooctanoic acid (PFOA)	ND		0.25	0.066	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.027	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorodecanoic acid (PFDA)	ND		0.25	0.060	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.052	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.037	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.026	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.046	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.25	0.047	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.25	0.036	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.25	0.054	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.25	0.029	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.25	0.060	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.25	0.044	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.25	0.051	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.25	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.25	0.049	ug/Kg	☼	07/13/23 04:31	07/16/23 00:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C4 PFHpA	*105*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C4 PFOA	*95*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C5 PFNA	*106*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C2 PFDA	*106*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C2 PFUnA	*100*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C2 PFDoA	*98*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C3 PFBS	*85*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
18O2 PFHxS	*91*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C4 PFOS	*91*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
d5-NEtFOSAA	*112*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*
13C3 HFPO-DA	*97*		*50 - 150*	*07/13/23 04:31*	*07/16/23 00:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**22.5**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**77.5**		0.1	0.1	%			07/12/23 12:34	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S15
Date Collected: 07/07/23 17:25
Date Received: 07/11/23 12:46

Lab Sample ID: 320-102392-6
Matrix: Solid
Percent Solids: 78.8

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.25	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.25	0.048	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorooctanoic acid (PFOA)	ND		0.25	0.067	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.028	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorodecanoic acid (PFDA)	ND		0.25	0.060	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.053	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.038	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.026	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.047	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.25	0.048	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.25	0.037	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.25	0.054	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.25	0.029	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.25	0.060	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.25	0.044	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.25	0.052	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.25	0.039	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.25	0.049	ug/Kg	☼	07/13/23 04:31	07/16/23 01:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C4 PFHpA	*101*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C4 PFOA	*99*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C5 PFNA	*103*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C2 PFDA	*108*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C2 PFUnA	*103*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C2 PFDoA	*102*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C3 PFBS	*89*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
18O2 PFHxS	*95*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C4 PFOS	*97*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
d3-NMeFOSAA	*106*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*
13C3 HFPO-DA	*101*		*50 - 150*	*07/13/23 04:31*	*07/16/23 01:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**21.2**		0.1	0.1	%			07/12/23 12:34	1
Percent Solids (ASTM D 2216)	**78.8**		0.1	0.1	%			07/12/23 12:34	1

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-102392-1	108906-SB11S1	90	90	93	93	95	89	78	75
320-102392-2	108906-SB11S2	103	104	100	108	113	108	100	85
320-102392-3	108906-SB11S3	90	94	88	96	100	89	87	73
320-102392-4	108906-SB11S4	93	99	94	99	101	93	91	76
320-102392-4 MS	108906-SB11S4	96	97	95	98	99	91	91	75
320-102392-4 MSD	108906-SB11S4	90	91	88	93	93	90	94	82
320-102392-5	108906-SB11S5	101	105	95	106	106	100	98	88
320-102392-6	108906-SB11S15	99	101	99	103	108	103	102	89
LCS 320-690141/2-A	Lab Control Sample	101	102	101	102	102	88	88	79
MB 320-690141/1-A	Method Blank	99	100	98	101	105	100	94	84

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS	HFPODA		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)		
320-102392-1	108906-SB11S1	79	80	78	93	104	82		
320-102392-2	108906-SB11S2	90	96	102	109	116	100		
320-102392-3	108906-SB11S3	76	77	83	94	93	90		
320-102392-4	108906-SB11S4	74	83	87	92	104	92		
320-102392-4 MS	108906-SB11S4	85	88	87	88	89	91		
320-102392-4 MSD	108906-SB11S4	78	85	82	90	93	85		
320-102392-5	108906-SB11S5	85	91	91	102	112	97		
320-102392-6	108906-SB11S15	89	95	97	106	111	101		
LCS 320-690141/2-A	Lab Control Sample	91	95	91	87	87	99		
MB 320-690141/1-A	Method Blank	89	90	91	102	106	98		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-690141/1-A
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 690141

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.0724	J	0.20	0.031	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		07/13/23 04:31	07/15/23 23:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		07/13/23 04:31	07/15/23 23:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C4 PFHpA	*100*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C4 PFOA	*98*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C5 PFNA	*101*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C2 PFDA	*105*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C2 PFUnA	*100*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C2 PFDoA	*94*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C3 PFBS	*89*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
18O2 PFHxS	*90*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C4 PFOS	*91*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
d5-NEtFOSAA	*106*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*07/13/23 04:31*	*07/15/23 23:35*	*1*

Lab Sample ID: LCS 320-690141/2-A
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	2.06		ug/Kg		103	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	2.19		ug/Kg		109	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.09		ug/Kg		105	69 - 133
Perfluorononanoic acid (PFNA)	2.00	2.15		ug/Kg		107	72 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-690141/2-A
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	2.00	2.01		ug/Kg		101	69 - 133
Perfluoroundecanoic acid (PFUnA)	2.00	2.17		ug/Kg		109	64 - 136
Perfluorododecanoic acid (PFDoA)	2.00	2.30		ug/Kg		115	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	2.07		ug/Kg		104	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	2.05		ug/Kg		102	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	1.93		ug/Kg		109	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.85		ug/Kg		101	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	2.01		ug/Kg		108	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.07		ug/Kg		104	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.06		ug/Kg		103	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.90		ug/Kg		102	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	2.10		ug/Kg		105	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.75		ug/Kg		93	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.33		ug/Kg		123	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*101*		*50 - 150*
13C4 PFHpA	*102*		*50 - 150*
13C4 PFOA	*101*		*50 - 150*
13C5 PFNA	*102*		*50 - 150*
13C2 PFDA	*102*		*50 - 150*
13C2 PFUnA	*88*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFTeDA	*79*		*50 - 150*
13C3 PFBS	*91*		*50 - 150*
18O2 PFHxS	*95*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*
d3-NMeFOSAA	*87*		*50 - 150*
d5-NEtFOSAA	*87*		*50 - 150*
13C3 HFPO-DA	*99*		*50 - 150*

Lab Sample ID: 320-102392-4 MS
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: 108906-SB11S4
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	ND		2.17	2.32		ug/Kg	☼	107	70 - 132
Perfluoroheptanoic acid (PFHpA)	ND		2.17	2.44		ug/Kg	☼	112	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.17	2.39		ug/Kg	☼	110	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-102392-4 MS
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: 108906-SB11S4
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	ND		2.17	2.45		ug/Kg	☼	113	72 - 129
Perfluorodecanoic acid (PFDA)	ND		2.17	2.40		ug/Kg	☼	111	69 - 133
Perfluoroundecanoic acid (PFUnA)	ND		2.17	2.36		ug/Kg	☼	109	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.17	2.32		ug/Kg	☼	107	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.17	2.06		ug/Kg	☼	95	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.17	2.18		ug/Kg	☼	100	69 - 133
Perfluorobutanesulfonic acid (PFBS)	ND		1.93	2.03		ug/Kg	☼	105	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	ND		1.98	2.06		ug/Kg	☼	104	67 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		2.02	2.18		ug/Kg	☼	108	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.17	2.26		ug/Kg	☼	104	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.17	2.39		ug/Kg	☼	110	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.03	2.16		ug/Kg	☼	106	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.17	2.34		ug/Kg	☼	108	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.05	2.01		ug/Kg	☼	98	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.05	2.63		ug/Kg	☼	128	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*96*		*50 - 150*
13C4 PFHpA	*97*		*50 - 150*
13C4 PFOA	*95*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C2 PFDA	*99*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C2 PFDoA	*91*		*50 - 150*
13C2 PFTeDA	*75*		*50 - 150*
13C3 PFBS	*85*		*50 - 150*
18O2 PFHxS	*88*		*50 - 150*
13C4 PFOS	*87*		*50 - 150*
d3-NMeFOSAA	*88*		*50 - 150*
d5-NEtFOSAA	*89*		*50 - 150*
13C3 HFPO-DA	*91*		*50 - 150*

Lab Sample ID: 320-102392-4 MSD
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: 108906-SB11S4
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	ND		2.32	2.45		ug/Kg	☼	106	70 - 132	5	30
Perfluoroheptanoic acid (PFHpA)	ND		2.32	2.48		ug/Kg	☼	107	71 - 131	2	30

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-102392-4 MSD
Matrix: Solid
Analysis Batch: 690724

Client Sample ID: 108906-SB11S4
Prep Type: Total/NA
Prep Batch: 690141

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	ND		2.32	2.51		ug/Kg	☼	108	69 - 133	5	30
Perfluorononanoic acid (PFNA)	ND		2.32	2.65		ug/Kg	☼	114	72 - 129	8	30
Perfluorodecanoic acid (PFDA)	ND		2.32	2.55		ug/Kg	☼	110	69 - 133	6	30
Perfluoroundecanoic acid (PFUnA)	ND		2.32	2.59		ug/Kg	☼	112	64 - 136	9	30
Perfluorododecanoic acid (PFDoA)	ND		2.32	2.56		ug/Kg	☼	110	69 - 135	10	30
Perfluorotridecanoic acid (PFTriA)	ND		2.32	2.37		ug/Kg	☼	102	66 - 139	14	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.32	2.42		ug/Kg	☼	104	69 - 133	11	30
Perfluorobutanesulfonic acid (PFBS)	ND		2.06	2.24		ug/Kg	☼	109	72 - 128	10	30
Perfluorohexanesulfonic acid (PFHxS)	ND		2.12	2.16		ug/Kg	☼	102	67 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	ND		2.16	2.26		ug/Kg	☼	105	68 - 136	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.32	2.47		ug/Kg	☼	106	63 - 144	9	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.32	2.47		ug/Kg	☼	106	61 - 139	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.17	2.28		ug/Kg	☼	105	75 - 135	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.32	2.54		ug/Kg	☼	110	77 - 137	8	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.19	2.53		ug/Kg	☼	115	76 - 136	23	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.19	2.68		ug/Kg	☼	122	79 - 139	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*90*		*50 - 150*
13C4 PFHpA	*91*		*50 - 150*
13C4 PFOA	*88*		*50 - 150*
13C5 PFNA	*93*		*50 - 150*
13C2 PFDA	*93*		*50 - 150*
13C2 PFUnA	*90*		*50 - 150*
13C2 PFDoA	*94*		*50 - 150*
13C2 PFTeDA	*82*		*50 - 150*
13C3 PFBS	*78*		*50 - 150*
18O2 PFHxS	*85*		*50 - 150*
13C4 PFOS	*82*		*50 - 150*
d3-NMeFOSAA	*90*		*50 - 150*
d5-NEtFOSAA	*93*		*50 - 150*
13C3 HFPO-DA	*85*		*50 - 150*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-102392-2 DU
Matrix: Solid
Analysis Batch: 689851

Client Sample ID: 108906-SB11S2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	13.1			12.6		%				4	20
Percent Solids	86.9			87.4		%				0.6	20

LCMS

Prep Batch: 690141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-102392-1	108906-SB11S1	Total/NA	Solid	SHAKE	
320-102392-2	108906-SB11S2	Total/NA	Solid	SHAKE	
320-102392-3	108906-SB11S3	Total/NA	Solid	SHAKE	
320-102392-4	108906-SB11S4	Total/NA	Solid	SHAKE	
320-102392-5	108906-SB11S5	Total/NA	Solid	SHAKE	
320-102392-6	108906-SB11S15	Total/NA	Solid	SHAKE	
MB 320-690141/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-690141/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-102392-4 MS	108906-SB11S4	Total/NA	Solid	SHAKE	
320-102392-4 MSD	108906-SB11S4	Total/NA	Solid	SHAKE	

Analysis Batch: 690724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-102392-1	108906-SB11S1	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-2	108906-SB11S2	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-3	108906-SB11S3	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-4	108906-SB11S4	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-5	108906-SB11S5	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-6	108906-SB11S15	Total/NA	Solid	EPA 537(Mod)	690141
MB 320-690141/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	690141
LCS 320-690141/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-4 MS	108906-SB11S4	Total/NA	Solid	EPA 537(Mod)	690141
320-102392-4 MSD	108906-SB11S4	Total/NA	Solid	EPA 537(Mod)	690141

General Chemistry

Analysis Batch: 689851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-102392-1	108906-SB11S1	Total/NA	Solid	D 2216	
320-102392-2	108906-SB11S2	Total/NA	Solid	D 2216	
320-102392-3	108906-SB11S3	Total/NA	Solid	D 2216	
320-102392-4	108906-SB11S4	Total/NA	Solid	D 2216	
320-102392-5	108906-SB11S5	Total/NA	Solid	D 2216	
320-102392-6	108906-SB11S15	Total/NA	Solid	D 2216	
320-102392-2 DU	108906-SB11S2	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S1
Lab Sample ID: 320-102392-1
Date Collected: 07/06/23 09:15
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Client Sample ID: 108906-SB11S1
Lab Sample ID: 320-102392-1
Date Collected: 07/06/23 09:15
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 63.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.39 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/15/23 23:56	C1P	EET SAC

Client Sample ID: 108906-SB11S2
Lab Sample ID: 320-102392-2
Date Collected: 07/06/23 10:10
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Client Sample ID: 108906-SB11S2
Lab Sample ID: 320-102392-2
Date Collected: 07/06/23 10:10
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.42 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/16/23 00:06	C1P	EET SAC

Client Sample ID: 108906-SB11S3
Lab Sample ID: 320-102392-3
Date Collected: 07/06/23 10:35
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Client Sample ID: 108906-SB11S3
Lab Sample ID: 320-102392-3
Date Collected: 07/06/23 10:35
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.11 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/16/23 00:16	C1P	EET SAC

Client Sample ID: 108906-SB11S4
Lab Sample ID: 320-102392-4
Date Collected: 07/06/23 12:30
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Client Sample ID: 108906-SB11S4
Lab Sample ID: 320-102392-4
Date Collected: 07/06/23 12:30
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.26 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/16/23 00:27	C1P	EET SAC

Client Sample ID: 108906-SB11S5
Lab Sample ID: 320-102392-5
Date Collected: 07/07/23 17:10
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Client Sample ID: 108906-SB11S5
Lab Sample ID: 320-102392-5
Date Collected: 07/07/23 17:10
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 77.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/16/23 00:57	C1P	EET SAC

Client Sample ID: 108906-SB11S15
Lab Sample ID: 320-102392-6
Date Collected: 07/07/23 17:25
Matrix: Solid
Date Received: 07/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			689851	07/12/23 12:34	TCS	EET SAC

Client Sample ID: 108906-SB11S15
Lab Sample ID: 320-102392-6
Date Collected: 07/07/23 17:25
Matrix: Solid
Date Received: 07/11/23 12:46
Percent Solids: 78.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	690141	07/13/23 04:31	SJ	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	690724	07/16/23 01:07	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Job ID: 320-102392-1
Project/Site: ANC Fire Training Area

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

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
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-102392-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-102392-1	108906-SB11S1	Solid	07/06/23 09:15	07/11/23 12:46
320-102392-2	108906-SB11S2	Solid	07/06/23 10:10	07/11/23 12:46
320-102392-3	108906-SB11S3	Solid	07/06/23 10:35	07/11/23 12:46
320-102392-4	108906-SB11S4	Solid	07/06/23 12:30	07/11/23 12:46
320-102392-5	108906-SB11S5	Solid	07/07/23 17:10	07/11/23 12:46
320-102392-6	108906-SB11S15	Solid	07/07/23 17:25	07/11/23 12:46

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins | Environment Testing America

Client Contact	Report To: Dan.McMahon@shanwil.com	Site Contact:	Date: 7/10/23	COC No: 1
Shannon & Wilson, Inc.	Tel/Fax:	Lab Contact: David Alltucker	Carrier: AK Goldstreak	____ of ____ COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906
Anchorage, Alaska 99518	Calendar (C) or Work Days (W) ____			SDG No.
Phone: 907-561-2120	TAT if different from Below ____			
FAX:	[X] 2 weeks			
Project Name: ANC Fire Training Area	[ ] 1 week			
Site:	[ ] 2 days			
P O # 108906	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes:
108906-SB1151	7/6/23	915	Grab	SOIL	1		X	
108906-SB1152	7/6/23	1010					X	
108906-SB1153	7/6/23	1035					X	
108906-SB1154	7/6/23	1230					X	
108906-SB1155	7/7/23	1710					X	
108906-SB1515	7/7/23	1725					X	

320-102392 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant Poison B [X] Unknown [ ]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months

Special Instructions/QC Requirements & Comments:

0.9c

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	STW	7/10/23 1000	[signature]	ETCA	7.11.23 1246
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-102392-1

Login Number: 102392
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2124277/2124276
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-102392-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	7/28/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments: *PFAS by QSM 5.3 Table B-15.*

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 0.9° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
-Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 108906-SB11S1 (320-102392-1).

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐

Comments: *PFAS by QSM 5.3 Table B-15.*

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: An estimated concentration of perfluorohexanoic acid (0.0000724 J mg/kg) was detected in the project method blank.*

iii. If above LoQ or RL, what samples are affected?
Comments: *All samples are potentially affected.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is less than 10 times the reported method blank concentration. The concentration of perfluorohexanoic acid in Sample SB11S1 was less than the LOQ; therefore, the results are reported as non-detect at the LOQ and flagged "B" in Table 3. Perfluorhexanoic acid was not detected in the remaining samples. Therefore, flagging is not required.*

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Samples SB11S15 (duplicate of Sample SB11S5) was included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *All primary/duplicate results were reported as non-detect.*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: .

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

Generated 8/29/2023 2:40:10 PM

JOB DESCRIPTION

ANC Fire Training Pit

JOB NUMBER

320-103643-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

Job Notes

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

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

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
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
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: 320-103643-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-103643-1

Receipt
The samples were received on 8/11/2023 2:52 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7º C.

LCMS

Method EPA 537(Mod): The method blank for preparation batch 320-699778 contained Perfluorooctanesulfonic acid (PFOS) above the half reporting limit (1/2RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.108906-SB8S5 (320-103643-9), 108906-SB12S5 (320-103643-13), 108906-SB12S11 (320-103643-14), 108906-SB12S13 (320-103643-15), 108906-SB13S5 (320-103643-18), 108906-SB13S11 (320-103643-19), 108906-SB13S15 (320-103643-20), 108906-SB13S25 (320-103643-21), 108906-SB6S3 (320-103643-23), 108906-SB6S5 (320-103643-24), 108906-SB6S11 (320-103643-25), 108906-SB6S16 (320-103643-26), 108906-SB6S26 (320-103643-27) and (MB 320-699778/1-A)

Method EPA 537(Mod): Perfluorooctanesulfonic acid (PFOS) was detected above the half reporting limit (1/2RL) in the method blank associated with preparation batch 320-699778 and analytical batch 320-700178 as well as in the following samples: 108906-SB12S3 (320-103643-12), 108906-SB13S1 (320-103643-16), 108906-SB13S3 (320-103643-17), 108906-SB6S1 (320-103643-22) and (MB 320-699778/1-A). All affected samples were re-extracted outside of holding time. Both sets of data have been reported.

Method EPA 537(Mod): The method blank for preparation batch 320-699778 and analytical batch 320-700178 contained Perfluorooctanesulfonic acid (PFOS) above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank. 108906-SB12S1 (320-103643-11) and (MB 320-699778/1-A)

Method EPA 537(Mod): The laboratory control sample duplicate (LCSD) for preparation batch 320-700266 and analytical batch 320-700525 recovered outside control limits for the following analyte: Hexafluoropropylene Oxide Dimer Acid (HFPO-DA). The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples are below the method recommended limit: 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. (MB 320-699778/1-A)

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte: 108906-B16TMW (320-103643-31).

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

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-699054.

Method 3535: The following samples in preparation batch 320-699054 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-B9TMW (320-103643-28) and 108906-B8TMW (320-103643-29)

Job ID: 320-103643-1 (Continued)

Laboratory: Eurofins Sacramento (Continued)

Method 3535: During the solid phase extraction process, the following samples contain non-settleable particulates which clogged the solid phase extraction column: 108906-B9TMW (320-103643-28) and 108906-B8TMW (320-103643-29)preparation batch 320-699054.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-700266.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-700724.

Method 3535: The following samples in preparation batch 320-700724 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31)

Method 3535: During the solid phase extraction process, the following samples contain non-settable particulates which clogged the solid phase extraction column: 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31).
preparation batch 320-700724

Method SHAKE: The following samples were re-prepared outside of preparation holding time due to a Method Blank (MB) detection for PFOS: 108906-SB12S3 (320-103643-12), 108906-SB13S1 (320-103643-16), 108906-SB13S3 (320-103643-17), 108906-SB6S1 (320-103643-22), (320-103643-A-12 MS) and (320-103643-A-12 MSD).
preparation batch 320-700780

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB9S1 — Lab Sample ID: 320-103643-1

No Detections.

Client Sample ID: 108906-SB9S3 — Lab Sample ID: 320-103643-2

No Detections.

Client Sample ID: 108906-SB9S5 — Lab Sample ID: 320-103643-3

No Detections.

Client Sample ID: 108906-SB9S11 — Lab Sample ID: 320-103643-4

No Detections.

Client Sample ID: 108906-SB9S23 — Lab Sample ID: 320-103643-5

No Detections.

Client Sample ID: 108906-SB9S33 — Lab Sample ID: 320-103643-6

No Detections.

Client Sample ID: 108906-SB8S1 — Lab Sample ID: 320-103643-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.14	J	0.30	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.30	0.058	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.26	J	0.30	0.081	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.10	J	0.30	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.30	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.70	I	0.30	0.066	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB8S3 — Lab Sample ID: 320-103643-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.066	J	0.21	0.030	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB8S5 — Lab Sample ID: 320-103643-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorotetradecanoic acid (PFTeA)	0.050	J	0.23	0.042	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	0.23	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB8S8 — Lab Sample ID: 320-103643-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.081	J	0.20	0.030	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB12S1 — Lab Sample ID: 320-103643-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.096	J	0.21	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.070	J	0.21	0.041	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.37		0.21	0.057	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.57		0.21	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.095	J	0.21	0.051	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.039	J	0.21	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorotridecanoic acid (PFTriA)	0.027	J	0.21	0.022	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: 108906-SB12S1 (Continued) — Lab Sample ID: 320-103643-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.74		0.21	0.031	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3	B	0.21	0.046	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB12S3 — Lab Sample ID: 320-103643-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.12	J	0.23	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.050	J	0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.42		0.23	0.061	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorotridecanoic acid (PFTriA)	0.067	J	0.23	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.098	J	0.23	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39		0.23	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.24	B	0.23	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.43	H	0.23	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB12S5 — Lab Sample ID: 320-103643-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.10	J	0.22	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39		0.22	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB12S11 — Lab Sample ID: 320-103643-14

No Detections.

Client Sample ID: 108906-SB12S13 — Lab Sample ID: 320-103643-15

No Detections.

Client Sample ID: 108906-SB13S1 — Lab Sample ID: 320-103643-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.9		0.22	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.69		0.22	0.041	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.47		0.22	0.058	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.43		0.22	0.024	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.060	J	0.22	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	B	0.22	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.90	H	0.21	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB13S3 — Lab Sample ID: 320-103643-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.21	J	0.22	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.091	J	0.22	0.041	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.46		0.22	0.057	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.22	0.031	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.35	B	0.22	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.40	H	0.21	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB13S5 — Lab Sample ID: 320-103643-18

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB13S11 — Lab Sample ID: 320-103643-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.74		0.27	0.042	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB13S15 — Lab Sample ID: 320-103643-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.40		0.22	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB13S25 — Lab Sample ID: 320-103643-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.37		0.22	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB6S1 — Lab Sample ID: 320-103643-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.31		0.22	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.36		0.22	0.042	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.12	J	0.22	0.059	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.22	0.032	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.33	B	0.22	0.048	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.29		0.23	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SB6S3 — Lab Sample ID: 320-103643-23

No Detections.

Client Sample ID: 108906-SB6S5 — Lab Sample ID: 320-103643-24

No Detections.

Client Sample ID: 108906-SB6S11 — Lab Sample ID: 320-103643-25

No Detections.

Client Sample ID: 108906-SB6S16 — Lab Sample ID: 320-103643-26

No Detections.

Client Sample ID: 108906-SB6S26 — Lab Sample ID: 320-103643-27

No Detections.

Client Sample ID: 108906-B9TMW — Lab Sample ID: 320-103643-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	67		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	31		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	8.9		1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	5.4		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.0		1.7	0.92	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.79	J	1.7	0.46	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	19		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		1.7	0.47	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	76		1.7	0.45	ng/L	1		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B8TMW — Lab Sample ID: 320-103643-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.2	J	1.6	0.46	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.92	J	1.6	0.20	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.4	J	1.6	0.67	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.79	J	1.6	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.69	J	1.6	0.25	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.4		1.6	0.16	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	71		1.6	0.45	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.45	J	1.6	0.43	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B6TMW — Lab Sample ID: 320-103643-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	5.9		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.8		1.7	0.70	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.3	J	1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.87	J	1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.66	J	1.7	0.47	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		1.7	0.45	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B16TMW — Lab Sample ID: 320-103643-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	6.0		1.8	0.51	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.4	J	1.8	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.6	J	1.8	0.75	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.75	J	1.8	0.24	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.67	J	1.8	0.27	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	1.8	0.50	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0	I	1.8	0.47	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-FB3 — Lab Sample ID: 320-103643-32

No Detections.

Client Sample ID: 108906-EB3 — Lab Sample ID: 320-103643-33

No Detections.

Client Sample ID: 108906-FB4 — Lab Sample ID: 320-103643-34

No Detections.

Client Sample ID: 108906-EB4 — Lab Sample ID: 320-103643-35

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB9S1
Date Collected: 08/02/23 09:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-1
Matrix: Solid
Percent Solids: 84.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.042	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.058	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.053	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.032	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.053	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.043	ug/Kg	☼	08/15/23 19:08	08/18/23 00:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C4 PFOA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C5 PFNA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C2 PFDA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C2 PFUnA	*82*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C2 PFDoA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C3 PFBS	*72*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C4 PFOS	*78*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
d5-NEtFOSAA	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.3**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.7**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB9S3

Date Collected: 08/02/23 09:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-2

Matrix: Solid
Percent Solids: 86.2

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.033	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.056	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.023	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.050	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.031	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.039	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.030	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.045	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.024	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.050	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 00:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C4 PFHpA	*85*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C4 PFOA	*90*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C5 PFNA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C2 PFDA	*82*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C2 PFUnA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C2 PFDoA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C3 PFBS	*73*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
18O2 PFHxS	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C4 PFOS	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
d3-NMeFOSAA	*71*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
d5-NEtFOSAA	*71*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.8**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**86.2**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB9S5
Date Collected: 08/02/23 09:40
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-3
Matrix: Solid
Percent Solids: 95.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.030	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.037	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.051	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.021	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.029	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.020	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.037	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.028	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.042	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.022	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.19	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.19	0.030	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.038	ug/Kg	☼	08/15/23 19:08	08/18/23 00:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C4 PFHpA	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C4 PFOA	*88*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C5 PFNA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C2 PFDA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C2 PFUnA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C2 PFDoA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C2 PFTeDA	*73*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C3 PFBS	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
18O2 PFHxS	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C4 PFOS	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
d5-NEtFOSAA	*82*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:29*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**4.1**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**95.9**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB9S11

Date Collected: 08/02/23 10:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-4

Matrix: Solid
Percent Solids: 91.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.058	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.052	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.031	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.052	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.042	ug/Kg	☼	08/15/23 19:08	08/18/23 00:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C4 PFHpA	*86*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C4 PFOA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C5 PFNA	*82*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C2 PFDA	*82*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C2 PFUnA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C2 PFDoA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C2 PFTeDA	*72*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C3 PFBS	*71*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
18O2 PFHxS	*76*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C4 PFOS	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
d5-NEtFOSAA	*71*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*
13C3 HFPO-DA	*78*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**8.3**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**91.7**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB9S23
Date Collected: 08/03/23 10:45
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-5
Matrix: Solid
Percent Solids: 84.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.061	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.055	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.033	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.049	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.055	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	08/15/23 19:08	08/18/23 00:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C4 PFHpA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C4 PFOA	*86*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C5 PFNA	*88*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C2 PFDA	*84*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C2 PFUnA	*86*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C2 PFDoA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C3 PFBS	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
18O2 PFHxS	*89*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C4 PFOS	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
d5-NEtFOSAA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*
13C3 HFPO-DA	*78*		*50 - 150*	*08/15/23 19:08*	*08/18/23 00:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.1**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB9S33
Date Collected: 08/03/23 11:00
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-6
Matrix: Solid
Percent Solids: 84.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.062	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.026	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.056	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.049	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.025	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.050	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.027	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.056	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.048	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.046	ug/Kg	☼	08/15/23 19:08	08/18/23 01:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C4 PFHpA	*87*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C4 PFOA	*93*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C5 PFNA	*89*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C2 PFDA	*92*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C2 PFUnA	*92*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C2 PFDoA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C2 PFTeDA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C3 PFBS	*86*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
18O2 PFHxS	*94*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C4 PFOS	*86*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
d3-NMeFOSAA	*78*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.1**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB8S1
Date Collected: 08/04/23 09:00
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-7
Matrix: Solid
Percent Solids: 65.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.14**	**J**	0.30	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluoroheptanoic acid (PFHpA)	**0.11**	**J**	0.30	0.058	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorooctanoic acid (PFOA)	**0.26**	**J**	0.30	0.081	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorononanoic acid (PFNA)	**0.10**	**J**	0.30	0.034	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorodecanoic acid (PFDA)	ND		0.30	0.073	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.30	0.064	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.30	0.046	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorotridecanoic acid (PFTriA)	ND		0.30	0.032	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.30	0.056	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.30	0.058	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorohexanesulfonic acid (PFHxS)	**0.17**	**J**	0.30	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Perfluorooctanesulfonic acid (PFOS)	**0.70**	**I**	0.30	0.066	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.30	0.035	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.30	0.073	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.30	0.053	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.30	0.063	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.30	0.047	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.30	0.059	ug/Kg	☼	08/15/23 19:08	08/18/23 01:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*73*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C4 PFHpA	*73*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C4 PFOA	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C5 PFNA	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C2 PFDA	*68*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C2 PFUnA	*65*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C2 PFDoA	*60*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C2 PFTeDA	*53*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C3 PFBS	*74*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C4 PFOS	*71*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
d3-NMeFOSAA	*59*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
d5-NEtFOSAA	*69*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*
13C3 HFPO-DA	*67*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**34.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**65.1**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB8S3
Date Collected: 08/04/23 10:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-8
Matrix: Solid
Percent Solids: 90.2

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.032	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.055	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.023	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.050	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.044	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.031	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.038	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.040	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorohexanesulfonic acid (PFHxS)	**0.066**	**J**	0.21	0.030	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.045	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.024	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.050	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.036	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.032	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	08/15/23 19:08	08/18/23 01:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*85*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C4 PFOA	*76*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C5 PFNA	*70*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C2 PFDA	*77*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C2 PFUnA	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C2 PFDoA	*73*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C2 PFTeDA	*52*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C3 PFBS	*83*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
18O2 PFHxS	*85*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C4 PFOS	*72*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
d3-NMeFOSAA	*68*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
d5-NEtFOSAA	*72*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*
13C3 HFPO-DA	*76*		*50 - 150*	*08/15/23 19:08*	*08/18/23 01:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**9.8**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**90.2**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB8S5
Date Collected: 08/04/23 10:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-9
Matrix: Solid
Percent Solids: 84.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.060	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorotetradecanoic acid (PFTeA)	**0.050**	**J**	0.23	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.23	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.049	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 04:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C4 PFOA	*95*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C5 PFNA	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C2 PFDA	*82*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C2 PFUnA	*73*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C2 PFDoA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C2 PFTeDA	*62*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C3 PFBS	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
18O2 PFHxS	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C4 PFOS	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
d5-NEtFOSAA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.6**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.4**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB8S8
Date Collected: 08/04/23 17:25
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-10
Matrix: Solid
Percent Solids: 94.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.039	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.043	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.031	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.038	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.039	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.081**	**J**	0.20	0.030	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.036	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 04:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C4 PFOA	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C5 PFNA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C2 PFDA	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C2 PFUnA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C2 PFDoA	*96*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C3 PFBS	*82*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
18O2 PFHxS	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C4 PFOS	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*
13C3 HFPO-DA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**5.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**94.1**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB12S1

Date Collected: 08/07/23 08:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-11

Matrix: Solid
Percent Solids: 90.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.096**	**J**	0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluoroheptanoic acid (PFHpA)	**0.070**	**J**	0.21	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorooctanoic acid (PFOA)	**0.37**		0.21	0.057	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorononanoic acid (PFNA)	**0.57**		0.21	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorodecanoic acid (PFDA)	**0.095**	**J**	0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.045	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorododecanoic acid (PFDoA)	**0.039**	**J**	0.21	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorotridecanoic acid (PFTriA)	**0.027**	**J**	0.21	0.022	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorohexanesulfonic acid (PFHxS)	**0.74**		0.21	0.031	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Perfluorooctanesulfonic acid (PFOS)	**1.3**	**B**	0.21	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 04:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C4 PFHpA	*82*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C4 PFOA	*93*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C5 PFNA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C2 PFDA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C2 PFUnA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C2 PFDoA	*83*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C2 PFTeDA	*96*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C3 PFBS	*78*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C4 PFOS	*71*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
d3-NMeFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
d5-NEtFOSAA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*
13C3 HFPO-DA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 04:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**9.6**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**90.4**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB12S3
Date Collected: 08/07/23 09:10
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-12
Matrix: Solid
Percent Solids: 85.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.12**	**J**	0.23	0.036	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluoroheptanoic acid (PFHpA)	**0.050**	**J**	0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorooctanoic acid (PFOA)	**0.42**		0.23	0.061	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.055	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorotridecanoic acid (PFTriA)	**0.067**	**J**	0.23	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorotetradecanoic acid (PFTeA)	**0.098**	**J**	0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorohexanesulfonic acid (PFHxS)	**0.39**		0.23	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Perfluorooctanesulfonic acid (PFOS)	**0.24**	**B**	0.23	0.049	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.055	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	08/17/23 19:42	08/19/23 05:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C4 PFHpA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C4 PFOA	*87*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C5 PFNA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C2 PFDA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C2 PFUnA	*72*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C2 PFDoA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C2 PFTeDA	*93*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C3 PFBS	*75*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C4 PFOS	*73*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
d5-NEtFOSAA	*82*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:02*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.43**	**H**	0.23	0.050	ug/Kg	☼	08/22/23 10:21	08/27/23 22:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*71*		*50 - 150*	*08/22/23 10:21*	*08/27/23 22:50*	*1*

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB12S3
Date Collected: 08/07/23 09:10
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-12
Matrix: Solid
Percent Solids: 85.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	14.6		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	85.4		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB12S5
Date Collected: 08/07/23 09:20
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-13
Matrix: Solid
Percent Solids: 86.2

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.10**	**J**	0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.059	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorohexanesulfonic acid (PFHxS)	**0.39**		0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.048	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 05:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C4 PFHpA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C4 PFOA	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C5 PFNA	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C2 PFDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C2 PFUnA	*79*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C2 PFDoA	*95*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C3 PFBS	*82*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
18O2 PFHxS	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C4 PFOS	*79*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
d5-NEtFOSAA	*87*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*
13C3 HFPO-DA	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 05:13*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.8**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**86.2**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB12S11
Date Collected: 08/07/23 10:20
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-14
Matrix: Solid
Percent Solids: 88.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.056	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.023	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.032	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.039	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.031	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.046	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 21:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C4 PFHpA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C4 PFOA	*92*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C5 PFNA	*89*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C2 PFDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C2 PFUnA	*89*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C2 PFDoA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C3 PFBS	*77*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
18O2 PFHxS	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C4 PFOS	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**12.0**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**88.0**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB12S13
Date Collected: 08/07/23 11:20
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-15
Matrix: Solid
Percent Solids: 83.4

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.24	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluoroheptanoic acid (PFHpA)	ND		0.24	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorooctanoic acid (PFOA)	ND		0.24	0.063	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.026	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.050	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.036	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.24	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.24	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.027	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.049	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.046	ug/Kg	☼	08/17/23 19:42	08/21/23 22:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C4 PFHpA	*92*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C4 PFOA	*94*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C5 PFNA	*89*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C2 PFDA	*92*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C2 PFUnA	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C2 PFDoA	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C2 PFTeDA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C3 PFBS	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
18O2 PFHxS	*95*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C4 PFOS	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.6**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**83.4**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S1
Date Collected: 08/07/23 14:50
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-16
Matrix: Solid
Percent Solids: 88.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.9**		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluoroheptanoic acid (PFHpA)	**0.69**		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorooctanoic acid (PFOA)	**0.47**		0.22	0.058	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorononanoic acid (PFNA)	**0.43**		0.22	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorohexanesulfonic acid (PFHxS)	**0.060**	**J**	0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**B**	0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 22:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C4 PFHpA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C4 PFOA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C5 PFNA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C2 PFDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C2 PFUnA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C2 PFDoA	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C2 PFTeDA	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C3 PFBS	*76*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
18O2 PFHxS	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C4 PFOS	*75*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
d3-NMeFOSAA	*68*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
d5-NEtFOSAA	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:13*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.90**	**H**	0.21	0.045	ug/Kg	☼	08/22/23 10:21	08/27/23 23:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*93*		*50 - 150*	*08/22/23 10:21*	*08/27/23 23:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**11.9**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB13S1
Date Collected: 08/07/23 14:50
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-16
Matrix: Solid
Percent Solids: 88.1

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	88.1		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S3
Date Collected: 08/07/23 15:03
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-17
Matrix: Solid
Percent Solids: 87.7

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.21**	**J**	0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluoroheptanoic acid (PFHpA)	**0.091**	**J**	0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorooctanoic acid (PFOA)	**0.46**		0.22	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorohexanesulfonic acid (PFHxS)	**0.17**	**J**	0.22	0.031	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Perfluorooctanesulfonic acid (PFOS)	**0.35**	**B**	0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 22:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C4 PFHpA	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C4 PFOA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C5 PFNA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C2 PFDA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C2 PFUnA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C2 PFDoA	*78*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C2 PFTeDA	*69*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C3 PFBS	*65*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
18O2 PFHxS	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C4 PFOS	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
d3-NMeFOSAA	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:24*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.40**	**H**	0.21	0.045	ug/Kg	☼	08/22/23 10:21	08/27/23 23:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*84*		*50 - 150*	*08/22/23 10:21*	*08/27/23 23:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**12.3**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB13S3
Date Collected: 08/07/23 15:03
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-17
Matrix: Solid
Percent Solids: 87.7

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	87.7		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S5
Date Collected: 08/07/23 15:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-18
Matrix: Solid
Percent Solids: 84.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.036	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.061	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.055	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.033	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.050	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.027	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.055	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.047	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C4 PFHpA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C4 PFOA	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C5 PFNA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C2 PFDA	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C2 PFUnA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C2 PFDoA	*78*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C2 PFTeDA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C3 PFBS	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
18O2 PFHxS	*75*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C4 PFOS	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
d3-NMeFOSAA	*69*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*
13C3 HFPO-DA	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.0**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.0**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S11

Date Collected: 08/07/23 16:30
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-19

Matrix: Solid
Percent Solids: 71.8

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.74**		0.27	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.27	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorooctanoic acid (PFOA)	ND		0.27	0.071	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorononanoic acid (PFNA)	ND		0.27	0.030	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorodecanoic acid (PFDA)	ND		0.27	0.065	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.27	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.27	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.27	0.028	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.27	0.050	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.27	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.27	0.039	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.27	0.058	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.27	0.031	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.27	0.065	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.27	0.047	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.27	0.055	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.27	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.27	0.053	ug/Kg	☼	08/17/23 19:42	08/21/23 22:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C4 PFOA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C5 PFNA	*80*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C2 PFDA	*84*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C2 PFUnA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C2 PFDoA	*76*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C3 PFBS	*76*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
18O2 PFHxS	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C4 PFOS	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
d3-NMeFOSAA	*65*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
d5-NEtFOSAA	*69*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*
13C3 HFPO-DA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**28.2**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**71.8**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S15
Date Collected: 08/08/23 09:10
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-20
Matrix: Solid
Percent Solids: 84.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.40**		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.058	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.053	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.053	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.043	ug/Kg	☼	08/17/23 19:42	08/19/23 06:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C4 PFOA	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C5 PFNA	*94*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C2 PFDA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C2 PFUnA	*79*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C2 PFDoA	*96*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C2 PFTeDA	*119*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C3 PFBS	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
18O2 PFHxS	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C4 PFOS	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*
13C3 HFPO-DA	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**16.0**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.0**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB13S25
Date Collected: 08/08/23 09:30
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-21
Matrix: Solid
Percent Solids: 86.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.37**		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.058	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.031	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.052	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.038	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.045	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 06:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C4 PFHpA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C4 PFOA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C5 PFNA	*92*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C2 PFDA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C2 PFUnA	*73*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C2 PFDoA	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C3 PFBS	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
18O2 PFHxS	*93*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C4 PFOS	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
d3-NMeFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
d5-NEtFOSAA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*
13C3 HFPO-DA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 06:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**86.1**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB6S1
Date Collected: 08/08/23 13:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-22
Matrix: Solid
Percent Solids: 86.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.31**		0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluoroheptanoic acid (PFHpA)	**0.36**		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.22	0.059	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorohexanesulfonic acid (PFHxS)	**0.17**	**J**	0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Perfluorooctanesulfonic acid (PFOS)	**0.33**	**B**	0.22	0.048	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 07:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C4 PFHpA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C4 PFOA	*88*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C5 PFNA	*90*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C2 PFDA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C2 PFUnA	*71*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C2 PFDoA	*83*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C2 PFTeDA	*72*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C3 PFBS	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
18O2 PFHxS	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C4 PFOS	*71*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
d5-NEtFOSAA	*79*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*
13C3 HFPO-DA	*89*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:06*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.29**		0.23	0.049	ug/Kg	☼	08/22/23 10:21	08/27/23 23:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*80*		*50 - 150*	*08/22/23 10:21*	*08/27/23 23:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**13.9**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB6S1
Date Collected: 08/08/23 13:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-22
Matrix: Solid
Percent Solids: 86.1

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (ASTM D 2216)	86.1		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB6S3

Date Collected: 08/08/23 14:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-23

Matrix: Solid
Percent Solids: 84.5

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.059	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.034	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.22	0.048	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.054	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.035	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 07:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C4 PFHpA	*83*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C4 PFOA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C5 PFNA	*84*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C2 PFDA	*75*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C2 PFUnA	*67*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C2 PFDoA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C2 PFTeDA	*69*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C3 PFBS	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C4 PFOS	*72*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
d3-NMeFOSAA	*63*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
d5-NEtFOSAA	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*
13C3 HFPO-DA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**15.5**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**84.5**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB6S5
Date Collected: 08/08/23 14:25
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-24
Matrix: Solid
Percent Solids: 91.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.032	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.055	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.023	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.050	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.031	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.022	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.039	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.030	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.050	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.043	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.032	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 22:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*78*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C4 PFOA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C5 PFNA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C2 PFDA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C2 PFUnA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C2 PFDoA	*78*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C2 PFTeDA	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C3 PFBS	*64*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
18O2 PFHxS	*76*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C4 PFOS	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
d3-NMeFOSAA	*69*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
d5-NEtFOSAA	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 22:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**8.1**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**91.9**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB6S11

Date Collected: 08/09/23 08:50
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-25

Matrix: Solid
Percent Solids: 92.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.057	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.024	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.045	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.032	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.023	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.040	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.041	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.031	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.046	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.025	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.051	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.21	0.038	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.044	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.21	0.033	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.042	ug/Kg	☼	08/17/23 19:42	08/19/23 07:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C4 PFOA	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C5 PFNA	*87*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C2 PFDA	*80*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C2 PFUnA	*74*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C2 PFDoA	*86*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C2 PFTeDA	*85*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C3 PFBS	*75*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
18O2 PFHxS	*77*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C4 PFOS	*78*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
d3-NMeFOSAA	*68*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
d5-NEtFOSAA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/17/23 19:42*	*08/19/23 07:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**8.0**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**92.0**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB6S16
Date Collected: 08/09/23 12:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-26
Matrix: Solid
Percent Solids: 83.0

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.24	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.24	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorooctanoic acid (PFOA)	ND		0.24	0.062	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.026	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorodecanoic acid (PFDA)	ND		0.24	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.049	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.24	0.035	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.24	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.24	0.045	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.24	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.24	0.051	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.24	0.027	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.24	0.057	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.041	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.048	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.037	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.046	ug/Kg	☼	08/17/23 19:42	08/21/23 23:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*89*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C4 PFHpA	*96*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C4 PFOA	*93*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C5 PFNA	*93*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C2 PFDA	*95*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C2 PFUnA	*90*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C2 PFDoA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C3 PFBS	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
18O2 PFHxS	*92*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C4 PFOS	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
d3-NMeFOSAA	*73*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
d5-NEtFOSAA	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*
13C3 HFPO-DA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**17.0**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**83.0**		0.1	0.1	%			08/14/23 16:00	1

Client Sample ID: 108906-SB6S26

Date Collected: 08/09/23 12:30
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-27

Matrix: Solid
Percent Solids: 85.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.060	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.025	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.054	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.042	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.043	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.033	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.049	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.026	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.054	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.046	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.035	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.044	ug/Kg	☼	08/17/23 19:42	08/21/23 23:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C4 PFHpA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C4 PFOA	*89*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C5 PFNA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C2 PFDA	*86*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C2 PFUnA	*88*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C2 PFDoA	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C2 PFTeDA	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C3 PFBS	*74*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
18O2 PFHxS	*81*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C4 PFOS	*78*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
d3-NMeFOSAA	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
d5-NEtFOSAA	*70*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*
13C3 HFPO-DA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 23:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**14.9**		0.1	0.1	%			08/14/23 16:00	1
Percent Solids (ASTM D 2216)	**85.1**		0.1	0.1	%			08/14/23 16:00	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B9TMW
Date Collected: 08/04/23 14:30
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-28
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**67**		1.7	0.48	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluoroheptanoic acid (PFHpA)	**14**		1.7	0.21	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorooctanoic acid (PFOA)	**31**		1.7	0.71	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorononanoic acid (PFNA)	**8.9**		1.7	0.22	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorodecanoic acid (PFDA)	**5.4**		1.7	0.26	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluoroundecanoic acid (PFUnA)	**2.0**		1.7	0.92	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorododecanoic acid (PFDoA)	**0.79**	**J**	1.7	0.46	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorobutanesulfonic acid (PFBS)	**19**		1.7	0.17	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorohexanesulfonic acid (PFHxS)	**14**		1.7	0.47	ng/L		08/16/23 05:22	08/18/23 04:22	1
Perfluorooctanesulfonic acid (PFOS)	**76**		1.7	0.45	ng/L		08/16/23 05:22	08/18/23 04:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		08/16/23 05:22	08/18/23 04:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		08/16/23 05:22	08/18/23 04:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		08/16/23 05:22	08/18/23 04:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		08/16/23 05:22	08/18/23 04:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		08/16/23 05:22	08/18/23 04:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		08/16/23 05:22	08/18/23 04:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*75*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C4 PFHpA	*73*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C4 PFOA	*71*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C5 PFNA	*73*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C2 PFDA	*73*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C2 PFUnA	*70*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C2 PFDoA	*60*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C2 PFTeDA	*51*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C3 PFBS	*64*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
18O2 PFHxS	*68*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C4 PFOS	*70*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
d3-NMeFOSAA	*68*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
d5-NEtFOSAA	*67*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*
13C3 HFPO-DA	*69*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:22*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B8TMW
Date Collected: 08/05/23 09:20
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-29
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.2**	**J**	1.6	0.46	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluoroheptanoic acid (PFHpA)	**0.92**	**J**	1.6	0.20	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	1.6	0.67	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorononanoic acid (PFNA)	**0.79**	**J**	1.6	0.21	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorodecanoic acid (PFDA)	**0.69**	**J**	1.6	0.25	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.87	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	1.0	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.58	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorobutanesulfonic acid (PFBS)	**2.4**		1.6	0.16	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorohexanesulfonic acid (PFHxS)	**71**		1.6	0.45	ng/L		08/16/23 05:22	08/18/23 04:33	1
Perfluorooctanesulfonic acid (PFOS)	**0.45**	**J**	1.6	0.43	ng/L		08/16/23 05:22	08/18/23 04:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	0.95	ng/L		08/16/23 05:22	08/18/23 04:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.0	ng/L		08/16/23 05:22	08/18/23 04:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.6	0.19	ng/L		08/16/23 05:22	08/18/23 04:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.2	1.2	ng/L		08/16/23 05:22	08/18/23 04:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.6	0.25	ng/L		08/16/23 05:22	08/18/23 04:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.32	ng/L		08/16/23 05:22	08/18/23 04:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*77*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C4 PFHpA	*77*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C4 PFOA	*76*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C5 PFNA	*79*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C2 PFDA	*81*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C2 PFUnA	*76*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C2 PFDoA	*64*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C2 PFTeDA	*52*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C3 PFBS	*71*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
18O2 PFHxS	*78*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C4 PFOS	*78*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
d3-NMeFOSAA	*73*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
d5-NEtFOSAA	*63*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*
13C3 HFPO-DA	*76*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:33*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B6TMW
Date Collected: 08/09/23 14:30
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-30
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**5.9**		1.7	0.48	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.7	0.21	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorooctanoic acid (PFOA)	**1.8**		1.7	0.70	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	1.7	0.22	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorodecanoic acid (PFDA)	**0.87**	**J**	1.7	0.26	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.91	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.45	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.60	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.66**	**J**	1.7	0.47	ng/L		08/21/23 19:08	08/22/23 22:23	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		1.7	0.45	ng/L		08/21/23 19:08	08/22/23 22:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.99	ng/L		08/21/23 19:08	08/22/23 22:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.1	ng/L		08/21/23 19:08	08/22/23 22:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		08/21/23 19:08	08/22/23 22:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		08/21/23 19:08	08/22/23 22:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.26	ng/L		08/21/23 19:08	08/22/23 22:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		08/21/23 19:08	08/22/23 22:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*61*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C4 PFHpA	*65*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C4 PFOA	*68*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C5 PFNA	*69*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C2 PFDA	*63*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C2 PFUnA	*50*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C2 PFDoA	*39*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C2 PFTeDA	*39*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C3 PFBS	*60*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
18O2 PFHxS	*63*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C4 PFOS	*59*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
d3-NMeFOSAA	*47*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
d5-NEtFOSAA	*47*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*
13C3 HFPO-DA	*57*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:23*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B16TMW
Date Collected: 08/09/23 15:00
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-31
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**6.0**		1.8	0.51	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluoroheptanoic acid (PFHpA)	**1.4**	**J**	1.8	0.22	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorooctanoic acid (PFOA)	**1.6**	**J**	1.8	0.75	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorononanoic acid (PFNA)	**0.75**	**J**	1.8	0.24	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorodecanoic acid (PFDA)	**0.67**	**J**	1.8	0.27	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.1	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorohexanesulfonic acid (PFHxS)	**0.61**	**J**	1.8	0.50	ng/L		08/21/23 19:08	08/22/23 22:34	1
Perfluorooctanesulfonic acid (PFOS)	**5.0**	**I**	1.8	0.47	ng/L		08/21/23 19:08	08/22/23 22:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.1	ng/L		08/21/23 19:08	08/22/23 22:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.1	ng/L		08/21/23 19:08	08/22/23 22:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.21	ng/L		08/21/23 19:08	08/22/23 22:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.5	1.3	ng/L		08/21/23 19:08	08/22/23 22:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.28	ng/L		08/21/23 19:08	08/22/23 22:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		08/21/23 19:08	08/22/23 22:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*56*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C4 PFHpA	*58*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C4 PFOA	*58*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C5 PFNA	*59*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C2 PFDA	*55*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C2 PFUnA	*46*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C2 PFDoA	*34*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C2 PFTeDA	*33*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C3 PFBS	*54*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
18O2 PFHxS	*57*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C4 PFOS	*54*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
d3-NMeFOSAA	*39*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
d5-NEtFOSAA	*41*	**5-*	*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*
13C3 HFPO-DA	*51*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:34*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-FB3
Date Collected: 08/03/23 10:40
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-32
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.55	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.81	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.54	ng/L		08/16/23 05:22	08/18/23 04:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.51	ng/L		08/16/23 05:22	08/18/23 04:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.8	1.1	ng/L		08/16/23 05:22	08/18/23 04:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.8	1.2	ng/L		08/16/23 05:22	08/18/23 04:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.23	ng/L		08/16/23 05:22	08/18/23 04:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.8	1.4	ng/L		08/16/23 05:22	08/18/23 04:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.30	ng/L		08/16/23 05:22	08/18/23 04:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		08/16/23 05:22	08/18/23 04:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C4 PFHpA	*89*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C4 PFOA	*90*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C5 PFNA	*99*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C2 PFDA	*97*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C2 PFUnA	*98*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C2 PFDoA	*93*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C3 PFBS	*85*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
18O2 PFHxS	*90*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C4 PFOS	*94*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
d3-NMeFOSAA	*110*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
d5-NEtFOSAA	*96*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*08/16/23 05:22*	*08/18/23 04:43*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-EB3
Date Collected: 08/07/23 18:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-33
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.51	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.22	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.74	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.24	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.96	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.64	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.50	ng/L		08/19/23 08:46	08/21/23 22:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.47	ng/L		08/19/23 08:46	08/21/23 22:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.0	ng/L		08/19/23 08:46	08/21/23 22:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.1	ng/L		08/19/23 08:46	08/21/23 22:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.21	ng/L		08/19/23 08:46	08/21/23 22:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	*+	3.5	1.3	ng/L		08/19/23 08:46	08/21/23 22:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.28	ng/L		08/19/23 08:46	08/21/23 22:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.35	ng/L		08/19/23 08:46	08/21/23 22:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C4 PFHpA	*98*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C4 PFOA	*100*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C5 PFNA	*103*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C2 PFDA	*107*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C2 PFUnA	*96*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C2 PFDoA	*90*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C2 PFTeDA	*78*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C3 PFBS	*90*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
18O2 PFHxS	*100*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C4 PFOS	*105*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
d5-NEtFOSAA	*96*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*08/19/23 08:46*	*08/21/23 22:39*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-FB4
Date Collected: 08/09/23 08:45
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-34
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.48	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.21	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.70	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.22	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.26	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.91	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.45	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	1.1	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.60	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.16	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.47	ng/L		08/21/23 19:08	08/22/23 22:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.44	ng/L		08/21/23 19:08	08/22/23 22:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.99	ng/L		08/21/23 19:08	08/22/23 22:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.1	ng/L		08/21/23 19:08	08/22/23 22:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.6	0.20	ng/L		08/21/23 19:08	08/22/23 22:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		08/21/23 19:08	08/22/23 22:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.6	0.26	ng/L		08/21/23 19:08	08/22/23 22:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.33	ng/L		08/21/23 19:08	08/22/23 22:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C4 PFHpA	*92*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C4 PFOA	*95*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C5 PFNA	*109*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C2 PFDA	*95*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C2 PFUnA	*87*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C2 PFDoA	*81*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C3 PFBS	*90*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
18O2 PFHxS	*94*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C4 PFOS	*94*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
d3-NMeFOSAA	*82*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
d5-NEtFOSAA	*82*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*
13C3 HFPO-DA	*78*		*50 - 150*	*08/21/23 19:08*	*08/22/23 22:57*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-EB4
Date Collected: 08/09/23 12:35
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-35
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.73	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.49	ng/L		08/21/23 19:08	08/22/23 23:08	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		08/21/23 19:08	08/22/23 23:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.0	ng/L		08/21/23 19:08	08/22/23 23:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.1	ng/L		08/21/23 19:08	08/22/23 23:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.21	ng/L		08/21/23 19:08	08/22/23 23:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		08/21/23 19:08	08/22/23 23:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		08/21/23 19:08	08/22/23 23:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		08/21/23 19:08	08/22/23 23:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*80*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C4 PFOA	*85*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C5 PFNA	*97*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C2 PFDA	*84*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C2 PFUnA	*77*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C2 PFDoA	*71*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C2 PFTeDA	*70*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C3 PFBS	*81*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
18O2 PFHxS	*83*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C4 PFOS	*84*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
d3-NMeFOSAA	*72*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
d5-NEtFOSAA	*75*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*
13C3 HFPO-DA	*70*		*50 - 150*	*08/21/23 19:08*	*08/22/23 23:08*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-103643-1	108906-SB9S1	80	84	83	83	83	82	77	75
320-103643-2	108906-SB9S3	79	85	90	79	82	83	79	84
320-103643-3	108906-SB9S5	79	80	88	83	87	87	81	73
320-103643-4	108906-SB9S11	80	86	87	82	82	81	77	72
320-103643-5	108906-SB9S23	81	87	86	88	84	86	81	75
320-103643-6	108906-SB9S33	87	87	93	89	92	92	83	77
320-103643-7	108906-SB8S1	73	73	74	74	68	65	60	53
320-103643-8	108906-SB8S3	85	81	76	70	77	83	73	52
320-103643-8 MS	108906-SB8S3	85	85	73	65	69	74	77	62
320-103643-8 MSD	108906-SB8S3	82	81	74	64	69	71	72	51
320-103643-9	108906-SB8S5	86	84	95	92	82	73	88	62
320-103643-10	108906-SB8S8	84	81	92	88	85	74	96	88
320-103643-11	108906-SB12S1	87	82	93	88	80	74	83	96
320-103643-12	108906-SB12S3	81	80	87	84	84	72	88	93
320-103643-12 - RE	108906-SB12S3								
320-103643-12 MS - RE	108906-SB12S3								
320-103643-12 MSD - RE	108906-SB12S3								
320-103643-13	108906-SB12S5	91	89	92	90	88	79	95	88
320-103643-14	108906-SB12S11	81	88	92	89	88	89	81	74
320-103643-15	108906-SB12S13	91	92	94	89	92	86	82	73
320-103643-16	108906-SB13S1	85	87	88	87	88	87	82	72
320-103643-16 - RE	108906-SB13S1								
320-103643-17	108906-SB13S3	72	79	83	81	83	81	78	69
320-103643-17 - RE	108906-SB13S3								
320-103643-18	108906-SB13S5	84	87	86	83	86	85	78	73
320-103643-19	108906-SB13S11	82	84	87	80	84	85	76	74
320-103643-20	108906-SB13S15	91	84	92	94	88	79	96	119
320-103643-21	108906-SB13S25	90	88	89	92	89	73	85	89
320-103643-22	108906-SB6S1	90	88	88	90	74	71	83	72
320-103643-22 - RE	108906-SB6S1								
320-103643-23	108906-SB6S3	84	83	84	84	75	67	80	69
320-103643-24	108906-SB6S5	78	81	85	81	83	83	78	70
320-103643-25	108906-SB6S11	86	81	86	87	80	74	86	85
320-103643-26	108906-SB6S16	89	96	93	93	95	90	88	80
320-103643-27	108906-SB6S26	85	85	89	85	86	88	82	72
320-103643-27 MS	108906-SB6S26	86	88	93	91	91	88	82	83
320-103643-27 MSD	108906-SB6S26	83	87	92	91	91	91	85	75
LCS 320-699042/2-A	Lab Control Sample	80	83	86	85	86	88	82	78
LCS 320-699778/2-A	Lab Control Sample	76	84	86	86	88	84	81	74
LCS 320-700780/2-A	Lab Control Sample	99	105	101	104	101	104	100	103
MB 320-699042/1-A	Method Blank	76	84	89	82	87	84	83	74
MB 320-699778/1-A	Method Blank	79	83	85	82	87	87	80	72
MB 320-700780/1-A	Method Blank	100	100	102	104	102	101	103	109

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS	HFPODA		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)		
320-103643-1	108906-SB9S1	72	80	78	74	80	79		
320-103643-2	108906-SB9S3	73	79	74	71	71	81		
320-103643-3	108906-SB9S5	74	77	77	77	82	79		

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Job ID: 320-103643-1
Project/Site: ANC Fire Training Pit

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-103643-4	108906-SB9S11	71	76	74	74	71	78		
320-103643-5	108906-SB9S23	77	89	81	77	81	78		
320-103643-6	108906-SB9S33	86	94	86	78	85	79		
320-103643-7	108906-SB8S1	74	80	71	59	69	67		
320-103643-8	108906-SB8S3	83	85	72	68	72	76		
320-103643-8 MS	108906-SB8S3	85	83	65	66	68	81		
320-103643-8 MSD	108906-SB8S3	77	81	62	64	63	77		
320-103643-9	108906-SB8S5	85	88	80	74	84	81		
320-103643-10	108906-SB8S8	82	88	80	77	90	80		
320-103643-11	108906-SB12S1	78	80	71	73	84	80		
320-103643-12	108906-SB12S3	75	80	73	74	82	79		
320-103643-12 - RE	108906-SB12S3			71					
320-103643-12 MS - RE	108906-SB12S3			80					
320-103643-12 MSD - RE	108906-SB12S3			87					
320-103643-13	108906-SB12S5	82	85	79	77	87	86		
320-103643-14	108906-SB12S11	77	83	79	74	73	91		
320-103643-15	108906-SB12S13	87	95	87	77	73	94		
320-103643-16	108906-SB13S1	76	83	75	68	74	91		
320-103643-16 - RE	108906-SB13S1			93					
320-103643-17	108906-SB13S3	65	72	70	70	73	79		
320-103643-17 - RE	108906-SB13S3			84					
320-103643-18	108906-SB13S5	73	75	72	69	73	86		
320-103643-19	108906-SB13S11	76	83	74	65	69	87		
320-103643-20	108906-SB13S15	86	92	90	77	85	85		
320-103643-21	108906-SB13S25	90	93	89	73	84	89		
320-103643-22	108906-SB6S1	81	84	71	74	79	89		
320-103643-22 - RE	108906-SB6S1			80					
320-103643-23	108906-SB6S3	77	80	72	63	77	80		
320-103643-24	108906-SB6S5	64	76	73	69	70	81		
320-103643-25	108906-SB6S11	75	77	78	68	81	81		
320-103643-26	108906-SB6S16	82	92	86	73	79	87		
320-103643-27	108906-SB6S26	74	81	78	70	70	85		
320-103643-27 MS	108906-SB6S26	79	87	82	70	78	92		
320-103643-27 MSD	108906-SB6S26	77	85	83	72	78	87		
LCS 320-699042/2-A	Lab Control Sample	78	88	83	79	81	79		
LCS 320-699778/2-A	Lab Control Sample	73	81	78	70	70	78		
LCS 320-700780/2-A	Lab Control Sample	99	98	98	88	101	84		
MB 320-699042/1-A	Method Blank	82	89	84	77	80	72		
MB 320-699778/1-A	Method Blank	76	79	79	72	75	79		
MB 320-700780/1-A	Method Blank	101	100	106	92	90	88		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-103643-28	108906-B9TMW	75	73	71	73	73	70	60	51
320-103643-29	108906-B8TMW	77	77	76	79	81	76	64	52
320-103643-30	108906-B6TMW	61	65	68	69	63	50	39 *5-	39 *5-
320-103643-31	108906-B16TMW	56	58	58	59	55	46 *5-	34 *5-	33 *5-
320-103643-32	108906-FB3	91	89	90	99	97	98	93	88
320-103643-33	108906-EB3	101	98	100	103	107	96	90	78
320-103643-34	108906-FB4	91	92	95	109	95	87	81	80
320-103643-35	108906-EB4	80	81	85	97	84	77	71	70
LCS 320-699054/2-A	Lab Control Sample	92	96	98	97	100	104	100	89
LCS 320-700266/2-A	Lab Control Sample	103	106	104	101	110	107	100	90
LCS 320-700724/2-A	Lab Control Sample	94	87	97	103	90	85	79	85
LCSD 320-699054/3-A	Lab Control Sample Dup	99	101	97	103	106	109	110	93
LCSD 320-700266/3-A	Lab Control Sample Dup	105	102	105	103	108	108	104	96
LCSD 320-700724/3-A	Lab Control Sample Dup	88	84	91	96	92	85	88	83
MB 320-699054/1-A	Method Blank	92	94	91	99	98	96	96	90
MB 320-700266/1-A	Method Blank	103	105	104	103	111	111	99	91
MB 320-700724/1-A	Method Blank	78	79	81	87	80	76	75	76

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-103643-28	108906-B9TMW	64	68	70	68	67	69		
320-103643-29	108906-B8TMW	71	78	78	73	63	76		
320-103643-30	108906-B6TMW	60	63	59	47 *5-	47 *5-	57		
320-103643-31	108906-B16TMW	54	57	54	39 *5-	41 *5-	51		
320-103643-32	108906-FB3	85	90	94	110	96	91		
320-103643-33	108906-EB3	90	100	105	102	96	94		
320-103643-34	108906-FB4	90	94	94	82	82	78		
320-103643-35	108906-EB4	81	83	84	72	75	70		
LCS 320-699054/2-A	Lab Control Sample	91	98	104	113	98	92		
LCS 320-700266/2-A	Lab Control Sample	94	102	105	104	93	99		
LCS 320-700724/2-A	Lab Control Sample	89	94	90	81	84	79		
LCSD 320-699054/3-A	Lab Control Sample Dup	96	102	104	116	103	96		
LCSD 320-700266/3-A	Lab Control Sample Dup	96	101	104	100	94	105		
LCSD 320-700724/3-A	Lab Control Sample Dup	87	91	91	82	84	78		
MB 320-699054/1-A	Method Blank	87	95	100	109	100	91		
MB 320-700266/1-A	Method Blank	95	100	105	110	98	102		
MB 320-700724/1-A	Method Blank	76	80	79	72	76	69		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-699042/1-A
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		08/15/23 19:08	08/17/23 23:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		08/15/23 19:08	08/17/23 23:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*76*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C4 PFOA	*89*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C5 PFNA	*82*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C2 PFDA	*87*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C2 PFUnA	*84*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C2 PFDoA	*83*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C3 PFBS	*82*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
18O2 PFHxS	*89*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C4 PFOS	*84*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
d5-NEtFOSAA	*80*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*
13C3 HFPO-DA	*72*		*50 - 150*	*08/15/23 19:08*	*08/17/23 23:22*	*1*

Lab Sample ID: LCS 320-699042/2-A
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	1.92		ug/Kg		96	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	1.91		ug/Kg		96	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.88		ug/Kg		94	69 - 133
Perfluorononanoic acid (PFNA)	2.00	1.80		ug/Kg		90	72 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-699042/2-A
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	2.00	1.95		ug/Kg		98	69 - 133
Perfluoroundecanoic acid (PFUnA)	2.00	1.83		ug/Kg		92	64 - 136
Perfluorododecanoic acid (PFDoA)	2.00	2.03		ug/Kg		101	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	1.97		ug/Kg		98	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	1.95		ug/Kg		97	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	1.74		ug/Kg		98	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.62		ug/Kg		89	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	1.76		ug/Kg		95	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.83		ug/Kg		91	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.77		ug/Kg		89	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.78		ug/Kg		95	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.76		ug/Kg		88	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.74		ug/Kg		92	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.88		ug/Kg		99	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*80*		*50 - 150*
13C4 PFHpA	*83*		*50 - 150*
13C4 PFOA	*86*		*50 - 150*
13C5 PFNA	*85*		*50 - 150*
13C2 PFDA	*86*		*50 - 150*
13C2 PFUnA	*88*		*50 - 150*
13C2 PFDoA	*82*		*50 - 150*
13C2 PFTeDA	*78*		*50 - 150*
13C3 PFBS	*78*		*50 - 150*
18O2 PFHxS	*88*		*50 - 150*
13C4 PFOS	*83*		*50 - 150*
d3-NMeFOSAA	*79*		*50 - 150*
d5-NEtFOSAA	*81*		*50 - 150*
13C3 HFPO-DA	*79*		*50 - 150*

Lab Sample ID: 320-103643-8 MS
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: 108906-SB8S3
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	ND		2.15	2.06		ug/Kg	☼	96	70 - 132
Perfluoroheptanoic acid (PFHpA)	ND		2.15	2.02		ug/Kg	☼	94	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.15	2.20		ug/Kg	☼	102	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-103643-8 MS
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: 108906-SB8S3
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	ND		2.15	1.99		ug/Kg	☼	93	72 - 129
Perfluorodecanoic acid (PFDA)	ND		2.15	2.19		ug/Kg	☼	102	69 - 133
Perfluoroundecanoic acid (PFUnA)	ND		2.15	2.09		ug/Kg	☼	97	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.15	2.31		ug/Kg	☼	107	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.15	2.26		ug/Kg	☼	105	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.15	2.14		ug/Kg	☼	100	69 - 133
Perfluorobutanesulfonic acid (PFBS)	ND		1.91	1.89		ug/Kg	☼	99	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	0.066	J	1.96	1.82		ug/Kg	☼	90	67 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		2.00	1.92		ug/Kg	☼	96	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.15	2.06		ug/Kg	☼	96	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.15	2.06		ug/Kg	☼	96	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.01	1.92		ug/Kg	☼	96	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.15	1.92		ug/Kg	☼	89	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.03	2.09		ug/Kg	☼	103	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.03	2.49		ug/Kg	☼	122	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*85*		*50 - 150*
13C4 PFHpA	*85*		*50 - 150*
13C4 PFOA	*73*		*50 - 150*
13C5 PFNA	*65*		*50 - 150*
13C2 PFDA	*69*		*50 - 150*
13C2 PFUnA	*74*		*50 - 150*
13C2 PFDoA	*77*		*50 - 150*
13C2 PFTeDA	*62*		*50 - 150*
13C3 PFBS	*85*		*50 - 150*
18O2 PFHxS	*83*		*50 - 150*
13C4 PFOS	*65*		*50 - 150*
d3-NMeFOSAA	*66*		*50 - 150*
d5-NEtFOSAA	*68*		*50 - 150*
13C3 HFPO-DA	*81*		*50 - 150*

Lab Sample ID: 320-103643-8 MSD
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: 108906-SB8S3
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	ND		2.10	1.92		ug/Kg	☼	91	70 - 132	7	30
Perfluoroheptanoic acid (PFHpA)	ND		2.10	1.99		ug/Kg	☼	95	71 - 131	1	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-103643-8 MSD
Matrix: Solid
Analysis Batch: 699642

Client Sample ID: 108906-SB8S3
Prep Type: Total/NA
Prep Batch: 699042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	ND		2.10	2.11		ug/Kg	☼	101	69 - 133	4	30
Perfluorononanoic acid (PFNA)	ND		2.10	2.07		ug/Kg	☼	99	72 - 129	4	30
Perfluorodecanoic acid (PFDA)	ND		2.10	2.03		ug/Kg	☼	97	69 - 133	8	30
Perfluoroundecanoic acid (PFUnA)	ND		2.10	2.15		ug/Kg	☼	102	64 - 136	3	30
Perfluorododecanoic acid (PFDoA)	ND		2.10	2.30		ug/Kg	☼	110	69 - 135	0	30
Perfluorotridecanoic acid (PFTriA)	ND		2.10	2.11		ug/Kg	☼	100	66 - 139	7	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.10	2.08		ug/Kg	☼	99	69 - 133	3	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.87	1.86		ug/Kg	☼	100	72 - 128	1	30
Perfluorohexanesulfonic acid (PFHxS)	0.066	J	1.92	1.79		ug/Kg	☼	90	67 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	ND		1.95	1.94		ug/Kg	☼	99	68 - 136	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.10	1.93		ug/Kg	☼	92	63 - 144	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.10	2.00		ug/Kg	☼	95	61 - 139	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.96	1.90		ug/Kg	☼	97	75 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.10	1.90		ug/Kg	☼	91	77 - 137	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.98	2.06		ug/Kg	☼	104	76 - 136	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.99	2.55		ug/Kg	☼	129	79 - 139	3	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*82*		*50 - 150*
13C4 PFHpA	*81*		*50 - 150*
13C4 PFOA	*74*		*50 - 150*
13C5 PFNA	*64*		*50 - 150*
13C2 PFDA	*69*		*50 - 150*
13C2 PFUnA	*71*		*50 - 150*
13C2 PFDoA	*72*		*50 - 150*
13C2 PFTeDA	*51*		*50 - 150*
13C3 PFBS	*77*		*50 - 150*
18O2 PFHxS	*81*		*50 - 150*
13C4 PFOS	*62*		*50 - 150*
d3-NMeFOSAA	*64*		*50 - 150*
d5-NEtFOSAA	*63*		*50 - 150*
13C3 HFPO-DA	*77*		*50 - 150*

Lab Sample ID: MB 320-699054/1-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/16/23 05:22	08/18/23 03:32	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-699054/1-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/16/23 05:22	08/18/23 03:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/16/23 05:22	08/18/23 03:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		08/16/23 05:22	08/18/23 03:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		08/16/23 05:22	08/18/23 03:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		08/16/23 05:22	08/18/23 03:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		08/16/23 05:22	08/18/23 03:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		08/16/23 05:22	08/18/23 03:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/23 05:22	08/18/23 03:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*92*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C4 PFHpA	*94*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C4 PFOA	*91*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C5 PFNA	*99*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C2 PFDA	*98*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C2 PFUnA	*96*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C2 PFDoA	*96*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C3 PFBS	*87*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
18O2 PFHxS	*95*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C4 PFOS	*100*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
d3-NMeFOSAA	*109*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
d5-NEtFOSAA	*100*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*08/16/23 05:22*	*08/18/23 03:32*	*1*

Lab Sample ID: LCS 320-699054/2-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	42.6		ng/L		107	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	42.8		ng/L		107	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	44.9		ng/L		112	71 - 133
Perfluorononanoic acid (PFNA)	40.0	42.1		ng/L		105	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	42.0		ng/L		105	71 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-699054/2-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	42.0		ng/L		105	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	45.8		ng/L		115	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	40.2		ng/L		101	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	37.7		ng/L		94	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	39.7		ng/L		112	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.4		ng/L		100	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	38.6		ng/L		104	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.3		ng/L		98	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.4		ng/L		106	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	39.5		ng/L		106	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	43.2		ng/L		108	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	38.4		ng/L		102	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	39.4		ng/L		104	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*92*		*50 - 150*
13C4 PFHpA	*96*		*50 - 150*
13C4 PFOA	*98*		*50 - 150*
13C5 PFNA	*97*		*50 - 150*
13C2 PFDA	*100*		*50 - 150*
13C2 PFUnA	*104*		*50 - 150*
13C2 PFDoA	*100*		*50 - 150*
13C2 PFTeDA	*89*		*50 - 150*
13C3 PFBS	*91*		*50 - 150*
18O2 PFHxS	*98*		*50 - 150*
13C4 PFOS	*104*		*50 - 150*
d3-NMeFOSAA	*113*		*50 - 150*
d5-NEtFOSAA	*98*		*50 - 150*
13C3 HFPO-DA	*92*		*50 - 150*

Lab Sample ID: LCSD 320-699054/3-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 699054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	41.2		ng/L		103	72 - 129	3	30
Perfluoroheptanoic acid (PFHpA)	40.0	43.1		ng/L		108	72 - 130	1	30
Perfluorooctanoic acid (PFOA)	40.0	46.6		ng/L		116	71 - 133	4	30
Perfluorononanoic acid (PFNA)	40.0	41.5		ng/L		104	69 - 130	2	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-699054/3-A
Matrix: Water
Analysis Batch: 699534

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 699054

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanoic acid (PFDA)			40.0	40.7		ng/L		102	71 - 129	3	30
Perfluoroundecanoic acid (PFUnA)			40.0	41.8		ng/L		105	69 - 133	0	30
Perfluorododecanoic acid (PFDoA)			40.0	44.0		ng/L		110	72 - 134	4	30
Perfluorotridecanoic acid (PFTriA)			40.0	39.4		ng/L		99	65 - 144	2	30
Perfluorotetradecanoic acid (PFTeA)			40.0	37.4		ng/L		94	71 - 132	1	30
Perfluorobutanesulfonic acid (PFBS)			35.5	38.5		ng/L		108	72 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	35.3		ng/L		97	68 - 131	3	30
Perfluorooctanesulfonic acid (PFOS)			37.2	37.6		ng/L		101	65 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	37.5		ng/L		94	65 - 136	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	41.9		ng/L		105	61 - 135	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	40.1		ng/L		107	77 - 137	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	42.4		ng/L		106	72 - 132	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	38.5		ng/L		102	76 - 136	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	40.2		ng/L		106	81 - 141	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*99*		*50 - 150*
13C4 PFHpA	*101*		*50 - 150*
13C4 PFOA	*97*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*
13C2 PFDA	*106*		*50 - 150*
13C2 PFUnA	*109*		*50 - 150*
13C2 PFDoA	*110*		*50 - 150*
13C2 PFTeDA	*93*		*50 - 150*
13C3 PFBS	*96*		*50 - 150*
18O2 PFHxS	*102*		*50 - 150*
13C4 PFOS	*104*		*50 - 150*
d3-NMeFOSAA	*116*		*50 - 150*
d5-NEtFOSAA	*103*		*50 - 150*
13C3 HFPO-DA	*96*		*50 - 150*

Lab Sample ID: MB 320-699778/1-A
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699778

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		08/17/23 19:42	08/21/23 21:28	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-699778/1-A
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 699778

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Perfluorooctanesulfonic acid (PFOS)	0.124	J I	0.20	0.043	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		08/17/23 19:42	08/21/23 21:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		08/17/23 19:42	08/21/23 21:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C4 PFHpA	*83*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C4 PFOA	*85*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C5 PFNA	*82*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C2 PFDA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C2 PFUnA	*87*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C2 PFDoA	*80*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C2 PFTeDA	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C3 PFBS	*76*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
18O2 PFHxS	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C4 PFOS	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
d3-NMeFOSAA	*72*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
d5-NEtFOSAA	*75*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*
13C3 HFPO-DA	*79*		*50 - 150*	*08/17/23 19:42*	*08/21/23 21:28*	*1*

Lab Sample ID: LCS 320-699778/2-A
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	1.97		ug/Kg		98	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	1.98		ug/Kg		99	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.95		ug/Kg		98	69 - 133
Perfluorononanoic acid (PFNA)	2.00	1.81		ug/Kg		90	72 - 129
Perfluorodecanoic acid (PFDA)	2.00	1.90		ug/Kg		95	69 - 133
Perfluoroundecanoic acid (PFUnA)	2.00	1.98		ug/Kg		99	64 - 136

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-699778/2-A
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	2.00	2.04		ug/Kg		102	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	1.89		ug/Kg		94	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	1.93		ug/Kg		96	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	1.74		ug/Kg		98	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.61		ug/Kg		88	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	1.82		ug/Kg		98	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.89		ug/Kg		95	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.93		ug/Kg		96	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.84		ug/Kg		99	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.98		ug/Kg		99	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.72		ug/Kg		91	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.92		ug/Kg		101	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*76*		*50 - 150*
13C4 PFHpA	*84*		*50 - 150*
13C4 PFOA	*86*		*50 - 150*
13C5 PFNA	*86*		*50 - 150*
13C2 PFDA	*88*		*50 - 150*
13C2 PFUnA	*84*		*50 - 150*
13C2 PFDoA	*81*		*50 - 150*
13C2 PFTeDA	*74*		*50 - 150*
13C3 PFBS	*73*		*50 - 150*
18O2 PFHxS	*81*		*50 - 150*
13C4 PFOS	*78*		*50 - 150*
d3-NMeFOSAA	*70*		*50 - 150*
d5-NEtFOSAA	*70*		*50 - 150*
13C3 HFPO-DA	*78*		*50 - 150*

Lab Sample ID: 320-103643-27 MS
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: 108906-SB6S26
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	ND		2.27	2.37		ug/Kg	☼	105	70 - 132
Perfluoroheptanoic acid (PFHpA)	ND		2.27	2.30		ug/Kg	☼	101	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.27	2.35		ug/Kg	☼	103	69 - 133
Perfluorononanoic acid (PFNA)	ND		2.27	2.12		ug/Kg	☼	93	72 - 129
Perfluorodecanoic acid (PFDA)	ND		2.27	2.28		ug/Kg	☼	100	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-103643-27 MS
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: 108906-SB6S26
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	ND		2.27	2.32		ug/Kg	☼	102	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.27	2.31		ug/Kg	☼	102	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.27	2.27		ug/Kg	☼	100	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.27	1.96		ug/Kg	☼	86	69 - 133
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	1.96		ug/Kg	☼	97	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	ND		2.07	1.83		ug/Kg	☼	88	67 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		2.11	2.05		ug/Kg	☼	97	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.27	2.21		ug/Kg	☼	97	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.27	2.03		ug/Kg	☼	90	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.12	2.12		ug/Kg	☼	100	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.27	2.30		ug/Kg	☼	101	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.14	1.90		ug/Kg	☼	89	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.15	2.38		ug/Kg	☼	111	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*86*		*50 - 150*
13C4 PFHpA	*88*		*50 - 150*
13C4 PFOA	*93*		*50 - 150*
13C5 PFNA	*91*		*50 - 150*
13C2 PFDA	*91*		*50 - 150*
13C2 PFUnA	*88*		*50 - 150*
13C2 PFDoA	*82*		*50 - 150*
13C2 PFTeDA	*83*		*50 - 150*
13C3 PFBS	*79*		*50 - 150*
18O2 PFHxS	*87*		*50 - 150*
13C4 PFOS	*82*		*50 - 150*
d3-NMeFOSAA	*70*		*50 - 150*
d5-NEtFOSAA	*78*		*50 - 150*
13C3 HFPO-DA	*92*		*50 - 150*

Lab Sample ID: 320-103643-27 MSD
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: 108906-SB6S26
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	ND		2.26	2.24		ug/Kg	☼	99	70 - 132	6	30
Perfluoroheptanoic acid (PFHpA)	ND		2.26	2.22		ug/Kg	☼	98	71 - 131	3	30
Perfluorooctanoic acid (PFOA)	ND		2.26	2.19		ug/Kg	☼	97	69 - 133	7	30
Perfluorononanoic acid (PFNA)	ND		2.26	2.13		ug/Kg	☼	94	72 - 129	0	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-103643-27 MSD
Matrix: Solid
Analysis Batch: 700612

Client Sample ID: 108906-SB6S26
Prep Type: Total/NA
Prep Batch: 699778

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanoic acid (PFDA)	ND		2.26	2.27		ug/Kg	☼	101	69 - 133	0	30
Perfluoroundecanoic acid (PFUnA)	ND		2.26	2.20		ug/Kg	☼	97	64 - 136	5	30
Perfluorododecanoic acid (PFDoA)	ND		2.26	2.40		ug/Kg	☼	106	69 - 135	4	30
Perfluorotridecanoic acid (PFTriA)	ND		2.26	2.16		ug/Kg	☼	96	66 - 139	5	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.26	2.19		ug/Kg	☼	97	69 - 133	11	30
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	1.93		ug/Kg	☼	96	72 - 128	1	30
Perfluorohexanesulfonic acid (PFHxS)	ND		2.06	1.85		ug/Kg	☼	90	67 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	ND		2.10	2.02		ug/Kg	☼	96	68 - 136	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.26	2.25		ug/Kg	☼	99	63 - 144	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.26	2.16		ug/Kg	☼	95	61 - 139	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.11	2.06		ug/Kg	☼	98	75 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.26	2.14		ug/Kg	☼	95	77 - 137	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.13	1.93		ug/Kg	☼	90	76 - 136	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.14	2.20		ug/Kg	☼	103	79 - 139	8	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*83*		*50 - 150*
13C4 PFHpA	*87*		*50 - 150*
13C4 PFOA	*92*		*50 - 150*
13C5 PFNA	*91*		*50 - 150*
13C2 PFDA	*91*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C2 PFDoA	*85*		*50 - 150*
13C2 PFTeDA	*75*		*50 - 150*
13C3 PFBS	*77*		*50 - 150*
18O2 PFHxS	*85*		*50 - 150*
13C4 PFOS	*83*		*50 - 150*
d3-NMeFOSAA	*72*		*50 - 150*
d5-NEtFOSAA	*78*		*50 - 150*
13C3 HFPO-DA	*87*		*50 - 150*

Lab Sample ID: MB 320-700266/1-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700266

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/19/23 08:46	08/21/23 21:38	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-700266/1-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700266

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/19/23 08:46	08/21/23 21:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/19/23 08:46	08/21/23 21:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		08/19/23 08:46	08/21/23 21:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		08/19/23 08:46	08/21/23 21:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		08/19/23 08:46	08/21/23 21:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.58	J	4.0	1.5	ng/L		08/19/23 08:46	08/21/23 21:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		08/19/23 08:46	08/21/23 21:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/19/23 08:46	08/21/23 21:38	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C4 PFHpA	*105*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C4 PFOA	*104*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C5 PFNA	*103*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C2 PFDA	*111*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C2 PFUnA	*111*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C2 PFDoA	*99*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C2 PFTeDA	*91*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C3 PFBS	*95*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
18O2 PFHxS	*100*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C4 PFOS	*105*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
d3-NMeFOSAA	*110*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*
13C3 HFPO-DA	*102*		*50 - 150*	*08/19/23 08:46*	*08/21/23 21:38*	*1*

Lab Sample ID: LCS 320-700266/2-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 700266

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	41.9		ng/L		105	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	43.7		ng/L		109	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	45.5		ng/L		114	71 - 133
Perfluorononanoic acid (PFNA)	40.0	44.2		ng/L		110	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	43.7		ng/L		109	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	44.2		ng/L		110	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-700266/2-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 700266

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	40.0	47.6		ng/L		119	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	42.8		ng/L		107	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	40.1		ng/L		100	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	39.8		ng/L		112	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.2		ng/L		102	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	38.3		ng/L		103	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.8		ng/L		102	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.9		ng/L		107	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	41.5		ng/L		111	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	48.1		ng/L		120	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	39.1		ng/L		103	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.8		ng/L		116	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*103*		*50 - 150*
13C4 PFHpA	*106*		*50 - 150*
13C4 PFOA	*104*		*50 - 150*
13C5 PFNA	*101*		*50 - 150*
13C2 PFDA	*110*		*50 - 150*
13C2 PFUnA	*107*		*50 - 150*
13C2 PFDoA	*100*		*50 - 150*
13C2 PFTeDA	*90*		*50 - 150*
13C3 PFBS	*94*		*50 - 150*
18O2 PFHxS	*102*		*50 - 150*
13C4 PFOS	*105*		*50 - 150*
d3-NMeFOSAA	*104*		*50 - 150*
d5-NEtFOSAA	*93*		*50 - 150*
13C3 HFPO-DA	*99*		*50 - 150*

Lab Sample ID: LCSD 320-700266/3-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 700266

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	47.3		ng/L		118	72 - 129	12	30
Perfluoroheptanoic acid (PFHpA)	40.0	50.9		ng/L		127	72 - 130	15	30
Perfluorooctanoic acid (PFOA)	40.0	51.5		ng/L		129	71 - 133	12	30
Perfluorononanoic acid (PFNA)	40.0	51.1		ng/L		128	69 - 130	14	30
Perfluorodecanoic acid (PFDA)	40.0	48.3		ng/L		121	71 - 129	10	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-700266/3-A
Matrix: Water
Analysis Batch: 700525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 700266

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)			40.0	50.2		ng/L		126	69 - 133	13	30
Perfluorododecanoic acid (PFDoA)			40.0	50.8		ng/L		127	72 - 134	7	30
Perfluorotridecanoic acid (PFTriA)			40.0	48.3		ng/L		121	65 - 144	12	30
Perfluorotetradecanoic acid (PFTeA)			40.0	45.1		ng/L		113	71 - 132	12	30
Perfluorobutanesulfonic acid (PFBS)			35.5	43.5		ng/L		122	72 - 130	9	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	42.8		ng/L		117	68 - 131	14	30
Perfluorooctanesulfonic acid (PFOS)			37.2	45.1		ng/L		121	65 - 140	16	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	50.4		ng/L		126	65 - 136	21	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	51.3		ng/L		128	61 - 135	18	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	46.1		ng/L		124	77 - 137	11	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	53.1	*+	ng/L		133	72 - 132	10	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	43.4		ng/L		115	76 - 136	10	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	48.1		ng/L		127	81 - 141	9	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*105*		*50 - 150*
13C4 PFHpA	*102*		*50 - 150*
13C4 PFOA	*105*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*
13C2 PFDA	*108*		*50 - 150*
13C2 PFUnA	*108*		*50 - 150*
13C2 PFDoA	*104*		*50 - 150*
13C2 PFTeDA	*96*		*50 - 150*
13C3 PFBS	*96*		*50 - 150*
18O2 PFHxS	*101*		*50 - 150*
13C4 PFOS	*104*		*50 - 150*
d3-NMeFOSAA	*100*		*50 - 150*
d5-NEtFOSAA	*94*		*50 - 150*
13C3 HFPO-DA	*105*		*50 - 150*

Lab Sample ID: MB 320-700724/1-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700724

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/21/23 19:08	08/22/23 21:04	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-700724/1-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700724

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/21/23 19:08	08/22/23 21:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/21/23 19:08	08/22/23 21:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		08/21/23 19:08	08/22/23 21:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		08/21/23 19:08	08/22/23 21:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		08/21/23 19:08	08/22/23 21:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		08/21/23 19:08	08/22/23 21:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		08/21/23 19:08	08/22/23 21:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/21/23 19:08	08/22/23 21:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*78*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C4 PFHpA	*79*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C4 PFOA	*81*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C5 PFNA	*87*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C2 PFDA	*80*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C2 PFUnA	*76*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C2 PFDoA	*75*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C2 PFTeDA	*76*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C3 PFBS	*76*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
18O2 PFHxS	*80*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C4 PFOS	*79*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
d3-NMeFOSAA	*72*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
d5-NEtFOSAA	*76*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*
13C3 HFPO-DA	*69*		*50 - 150*	*08/21/23 19:08*	*08/22/23 21:04*	*1*

Lab Sample ID: LCS 320-700724/2-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 700724

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	42.7		ng/L		107	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	42.2		ng/L		105	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	38.9		ng/L		97	71 - 133
Perfluorononanoic acid (PFNA)	40.0	37.4		ng/L		94	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	41.6		ng/L		104	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	40.2		ng/L		100	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	45.3		ng/L		113	72 - 134

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-700724/2-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 700724

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTriA)	40.0	39.7		ng/L		99	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	40.5		ng/L		101	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	36.1		ng/L		102	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.0		ng/L		93	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	36.2		ng/L		97	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	35.5		ng/L		89	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.3		ng/L		96	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	40.8		ng/L		109	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	41.7		ng/L		104	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	35.5		ng/L		94	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	39.1		ng/L		103	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*94*		*50 - 150*
13C4 PFHpA	*87*		*50 - 150*
13C4 PFOA	*97*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*
13C2 PFDA	*90*		*50 - 150*
13C2 PFUnA	*85*		*50 - 150*
13C2 PFDoA	*79*		*50 - 150*
13C2 PFTeDA	*85*		*50 - 150*
13C3 PFBS	*89*		*50 - 150*
18O2 PFHxS	*94*		*50 - 150*
13C4 PFOS	*90*		*50 - 150*
d3-NMeFOSAA	*81*		*50 - 150*
d5-NEtFOSAA	*84*		*50 - 150*
13C3 HFPO-DA	*79*		*50 - 150*

Lab Sample ID: LCSD 320-700724/3-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 700724

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	42.5		ng/L		106	72 - 129	0	30
Perfluoroheptanoic acid (PFHpA)	40.0	43.1		ng/L		108	72 - 130	2	30
Perfluorooctanoic acid (PFOA)	40.0	39.1		ng/L		98	71 - 133	0	30
Perfluorononanoic acid (PFNA)	40.0	37.5		ng/L		94	69 - 130	0	30
Perfluorodecanoic acid (PFDA)	40.0	39.9		ng/L		100	71 - 129	4	30
Perfluoroundecanoic acid (PFUnA)	40.0	39.6		ng/L		99	69 - 133	1	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-700724/3-A
Matrix: Water
Analysis Batch: 701006

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 700724

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA)			40.0	42.9		ng/L		107	72 - 134	6	30
Perfluorotridecanoic acid (PFTriA)			40.0	37.0		ng/L		92	65 - 144	7	30
Perfluorotetradecanoic acid (PFTeA)			40.0	40.7		ng/L		102	71 - 132	1	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.0		ng/L		104	72 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	34.7		ng/L		95	68 - 131	2	30
Perfluorooctanesulfonic acid (PFOS)			37.2	36.1		ng/L		97	65 - 140	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	37.2		ng/L		93	65 - 136	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	35.8		ng/L		90	61 - 135	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	39.4		ng/L		106	77 - 137	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	41.6		ng/L		104	72 - 132	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	35.1		ng/L		93	76 - 136	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	38.0		ng/L		100	81 - 141	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*88*		*50 - 150*
13C4 PFHpA	*84*		*50 - 150*
13C4 PFOA	*91*		*50 - 150*
13C5 PFNA	*96*		*50 - 150*
13C2 PFDA	*92*		*50 - 150*
13C2 PFUnA	*85*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFTeDA	*83*		*50 - 150*
13C3 PFBS	*87*		*50 - 150*
18O2 PFHxS	*91*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*
d3-NMeFOSAA	*82*		*50 - 150*
d5-NEtFOSAA	*84*		*50 - 150*
13C3 HFPO-DA	*78*		*50 - 150*

Lab Sample ID: MB 320-700780/1-A
Matrix: Solid
Analysis Batch: 702038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700780

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		08/22/23 10:21	08/27/23 22:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*100*		*50 - 150*	*08/22/23 10:21*	*08/27/23 22:27*	*1*
13C4 PFHpA	*100*		*50 - 150*	*08/22/23 10:21*	*08/27/23 22:27*	*1*
13C4 PFOA	*102*		*50 - 150*	*08/22/23 10:21*	*08/27/23 22:27*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-700780/1-A
Matrix: Solid
Analysis Batch: 702038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 700780

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	104		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C2 PFDA	102		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C2 PFUnA	101		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C2 PFDoA	103		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C2 PFTeDA	109		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C3 PFBS	101		50 - 150	08/22/23 10:21	08/27/23 22:27	1
18O2 PFHxS	100		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C4 PFOS	106		50 - 150	08/22/23 10:21	08/27/23 22:27	1
d3-NMeFOSAA	92		50 - 150	08/22/23 10:21	08/27/23 22:27	1
d5-NEtFOSAA	90		50 - 150	08/22/23 10:21	08/27/23 22:27	1
13C3 HFPO-DA	88		50 - 150	08/22/23 10:21	08/27/23 22:27	1

Lab Sample ID: LCS 320-700780/2-A
Matrix: Solid
Analysis Batch: 702038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 700780

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.86	1.91		ug/Kg		103	68 - 136

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	99		50 - 150
13C4 PFHpA	105		50 - 150
13C4 PFOA	101		50 - 150
13C5 PFNA	104		50 - 150
13C2 PFDA	101		50 - 150
13C2 PFUnA	104		50 - 150
13C2 PFDoA	100		50 - 150
13C2 PFTeDA	103		50 - 150
13C3 PFBS	99		50 - 150
18O2 PFHxS	98		50 - 150
13C4 PFOS	98		50 - 150
d3-NMeFOSAA	88		50 - 150
d5-NEtFOSAA	101		50 - 150
13C3 HFPO-DA	84		50 - 150

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Lab Sample ID: 320-103643-12 MS
Matrix: Solid
Analysis Batch: 702038

Client Sample ID: 108906-SB12S3
Prep Type: Total/NA
Prep Batch: 700780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS) - RE	0.43	H	2.08	2.80		ug/Kg	☼	114	68 - 136

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFOS - RE	80		50 - 150

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE (Continued)

Lab Sample ID: 320-103643-12 MSD
Matrix: Solid
Analysis Batch: 702038

Client Sample ID: 108906-SB12S3
Prep Type: Total/NA
Prep Batch: 700780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS) - RE	0.43	H	2.07	2.39		ug/Kg	☼	95	68 - 136	16	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOS - RE	*87*		*50 - 150*

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-103643-1 DU
Matrix: Solid
Analysis Batch: 698640

Client Sample ID: 108906-SB9S1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	15.3		14.6		%		5	20
Percent Solids	84.7		85.4		%		0.8	20

Lab Sample ID: 320-103643-20 DU
Matrix: Solid
Analysis Batch: 698641

Client Sample ID: 108906-SB13S15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	16.0		15.8		%		1	20
Percent Solids	84.0		84.2		%		0.2	20

LCMS

Prep Batch: 699042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-1	108906-SB9S1	Total/NA	Solid	SHAKE	
320-103643-2	108906-SB9S3	Total/NA	Solid	SHAKE	
320-103643-3	108906-SB9S5	Total/NA	Solid	SHAKE	
320-103643-4	108906-SB9S11	Total/NA	Solid	SHAKE	
320-103643-5	108906-SB9S23	Total/NA	Solid	SHAKE	
320-103643-6	108906-SB9S33	Total/NA	Solid	SHAKE	
320-103643-7	108906-SB8S1	Total/NA	Solid	SHAKE	
320-103643-8	108906-SB8S3	Total/NA	Solid	SHAKE	
MB 320-699042/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-699042/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-103643-8 MS	108906-SB8S3	Total/NA	Solid	SHAKE	
320-103643-8 MSD	108906-SB8S3	Total/NA	Solid	SHAKE	

Prep Batch: 699054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-28	108906-B9TMW	Total/NA	Water	3535	
320-103643-29	108906-B8TMW	Total/NA	Water	3535	
320-103643-32	108906-FB3	Total/NA	Water	3535	
MB 320-699054/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-699054/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-699054/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 699534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-28	108906-B9TMW	Total/NA	Water	EPA 537(Mod)	699054
320-103643-29	108906-B8TMW	Total/NA	Water	EPA 537(Mod)	699054
320-103643-32	108906-FB3	Total/NA	Water	EPA 537(Mod)	699054
MB 320-699054/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	699054
LCS 320-699054/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	699054
LCSD 320-699054/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	699054

Analysis Batch: 699642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-1	108906-SB9S1	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-2	108906-SB9S3	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-3	108906-SB9S5	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-4	108906-SB9S11	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-5	108906-SB9S23	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-6	108906-SB9S33	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-7	108906-SB8S1	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-8	108906-SB8S3	Total/NA	Solid	EPA 537(Mod)	699042
MB 320-699042/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	699042
LCS 320-699042/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-8 MS	108906-SB8S3	Total/NA	Solid	EPA 537(Mod)	699042
320-103643-8 MSD	108906-SB8S3	Total/NA	Solid	EPA 537(Mod)	699042

Prep Batch: 699778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-9	108906-SB8S5	Total/NA	Solid	SHAKE	
320-103643-10	108906-SB8S8	Total/NA	Solid	SHAKE	
320-103643-11	108906-SB12S1	Total/NA	Solid	SHAKE	

LCMS (Continued)

Prep Batch: 699778 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-12	108906-SB12S3	Total/NA	Solid	SHAKE	
320-103643-13	108906-SB12S5	Total/NA	Solid	SHAKE	
320-103643-14	108906-SB12S11	Total/NA	Solid	SHAKE	
320-103643-15	108906-SB12S13	Total/NA	Solid	SHAKE	
320-103643-16	108906-SB13S1	Total/NA	Solid	SHAKE	
320-103643-17	108906-SB13S3	Total/NA	Solid	SHAKE	
320-103643-18	108906-SB13S5	Total/NA	Solid	SHAKE	
320-103643-19	108906-SB13S11	Total/NA	Solid	SHAKE	
320-103643-20	108906-SB13S15	Total/NA	Solid	SHAKE	
320-103643-21	108906-SB13S25	Total/NA	Solid	SHAKE	
320-103643-22	108906-SB6S1	Total/NA	Solid	SHAKE	
320-103643-23	108906-SB6S3	Total/NA	Solid	SHAKE	
320-103643-24	108906-SB6S5	Total/NA	Solid	SHAKE	
320-103643-25	108906-SB6S11	Total/NA	Solid	SHAKE	
320-103643-26	108906-SB6S16	Total/NA	Solid	SHAKE	
320-103643-27	108906-SB6S26	Total/NA	Solid	SHAKE	
MB 320-699778/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-699778/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-103643-27 MS	108906-SB6S26	Total/NA	Solid	SHAKE	
320-103643-27 MSD	108906-SB6S26	Total/NA	Solid	SHAKE	

Analysis Batch: 700178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-9	108906-SB8S5	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-10	108906-SB8S8	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-11	108906-SB12S1	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-12	108906-SB12S3	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-13	108906-SB12S5	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-20	108906-SB13S15	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-21	108906-SB13S25	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-22	108906-SB6S1	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-23	108906-SB6S3	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-25	108906-SB6S11	Total/NA	Solid	EPA 537(Mod)	699778

Prep Batch: 700266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-33	108906-EB3	Total/NA	Water	3535	
MB 320-700266/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-700266/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-700266/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 700525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-33	108906-EB3	Total/NA	Water	EPA 537(Mod)	700266
MB 320-700266/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	700266
LCS 320-700266/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	700266
LCSD 320-700266/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	700266

Analysis Batch: 700612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-14	108906-SB12S11	Total/NA	Solid	EPA 537(Mod)	699778

LCMS (Continued)

Analysis Batch: 700612 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-15	108906-SB12S13	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-16	108906-SB13S1	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-17	108906-SB13S3	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-18	108906-SB13S5	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-19	108906-SB13S11	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-24	108906-SB6S5	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-26	108906-SB6S16	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-27	108906-SB6S26	Total/NA	Solid	EPA 537(Mod)	699778
MB 320-699778/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	699778
LCS 320-699778/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-27 MS	108906-SB6S26	Total/NA	Solid	EPA 537(Mod)	699778
320-103643-27 MSD	108906-SB6S26	Total/NA	Solid	EPA 537(Mod)	699778

Prep Batch: 700724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-30	108906-B6TMW	Total/NA	Water	3535	
320-103643-31	108906-B16TMW	Total/NA	Water	3535	
320-103643-34	108906-FB4	Total/NA	Water	3535	
320-103643-35	108906-EB4	Total/NA	Water	3535	
MB 320-700724/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-700724/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-700724/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Prep Batch: 700780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-12 - RE	108906-SB12S3	Total/NA	Solid	SHAKE	
320-103643-16 - RE	108906-SB13S1	Total/NA	Solid	SHAKE	
320-103643-17 - RE	108906-SB13S3	Total/NA	Solid	SHAKE	
320-103643-22 - RE	108906-SB6S1	Total/NA	Solid	SHAKE	
MB 320-700780/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-700780/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-103643-12 MS - RE	108906-SB12S3	Total/NA	Solid	SHAKE	
320-103643-12 MSD - RE	108906-SB12S3	Total/NA	Solid	SHAKE	

Analysis Batch: 701006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-30	108906-B6TMW	Total/NA	Water	EPA 537(Mod)	700724
320-103643-31	108906-B16TMW	Total/NA	Water	EPA 537(Mod)	700724
320-103643-34	108906-FB4	Total/NA	Water	EPA 537(Mod)	700724
320-103643-35	108906-EB4	Total/NA	Water	EPA 537(Mod)	700724
MB 320-700724/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	700724
LCS 320-700724/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	700724
LCSD 320-700724/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	700724

Analysis Batch: 702038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-12 - RE	108906-SB12S3	Total/NA	Solid	EPA 537(Mod)	700780
320-103643-16 - RE	108906-SB13S1	Total/NA	Solid	EPA 537(Mod)	700780
320-103643-17 - RE	108906-SB13S3	Total/NA	Solid	EPA 537(Mod)	700780
320-103643-22 - RE	108906-SB6S1	Total/NA	Solid	EPA 537(Mod)	700780
MB 320-700780/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	700780

LCMS (Continued)

Analysis Batch: 702038 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-700780/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	700780
320-103643-12 MS - RE	108906-SB12S3	Total/NA	Solid	EPA 537(Mod)	700780
320-103643-12 MSD - RE	108906-SB12S3	Total/NA	Solid	EPA 537(Mod)	700780

General Chemistry

Analysis Batch: 698640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-1	108906-SB9S1	Total/NA	Solid	D 2216	
320-103643-2	108906-SB9S3	Total/NA	Solid	D 2216	
320-103643-3	108906-SB9S5	Total/NA	Solid	D 2216	
320-103643-4	108906-SB9S11	Total/NA	Solid	D 2216	
320-103643-5	108906-SB9S23	Total/NA	Solid	D 2216	
320-103643-6	108906-SB9S33	Total/NA	Solid	D 2216	
320-103643-7	108906-SB8S1	Total/NA	Solid	D 2216	
320-103643-8	108906-SB8S3	Total/NA	Solid	D 2216	
320-103643-9	108906-SB8S5	Total/NA	Solid	D 2216	
320-103643-10	108906-SB8S8	Total/NA	Solid	D 2216	
320-103643-11	108906-SB12S1	Total/NA	Solid	D 2216	
320-103643-12	108906-SB12S3	Total/NA	Solid	D 2216	
320-103643-13	108906-SB12S5	Total/NA	Solid	D 2216	
320-103643-14	108906-SB12S11	Total/NA	Solid	D 2216	
320-103643-15	108906-SB12S13	Total/NA	Solid	D 2216	
320-103643-16	108906-SB13S1	Total/NA	Solid	D 2216	
320-103643-17	108906-SB13S3	Total/NA	Solid	D 2216	
320-103643-18	108906-SB13S5	Total/NA	Solid	D 2216	
320-103643-19	108906-SB13S11	Total/NA	Solid	D 2216	
320-103643-1 DU	108906-SB9S1	Total/NA	Solid	D 2216	

Analysis Batch: 698641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103643-20	108906-SB13S15	Total/NA	Solid	D 2216	
320-103643-21	108906-SB13S25	Total/NA	Solid	D 2216	
320-103643-22	108906-SB6S1	Total/NA	Solid	D 2216	
320-103643-23	108906-SB6S3	Total/NA	Solid	D 2216	
320-103643-24	108906-SB6S5	Total/NA	Solid	D 2216	
320-103643-25	108906-SB6S11	Total/NA	Solid	D 2216	
320-103643-26	108906-SB6S16	Total/NA	Solid	D 2216	
320-103643-27	108906-SB6S26	Total/NA	Solid	D 2216	
320-103643-20 DU	108906-SB13S15	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB9S1
Date Collected: 08/02/23 09:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB9S1
Date Collected: 08/02/23 09:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-1
Matrix: Solid
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.36 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 00:06	C1P	EET SAC

Client Sample ID: 108906-SB9S3
Date Collected: 08/02/23 09:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB9S3
Date Collected: 08/02/23 09:15
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-2
Matrix: Solid
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.53 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 00:17	C1P	EET SAC

Client Sample ID: 108906-SB9S5
Date Collected: 08/02/23 09:40
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB9S5
Date Collected: 08/02/23 09:40
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-3
Matrix: Solid
Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 00:29	C1P	EET SAC

Client Sample ID: 108906-SB9S11
Date Collected: 08/02/23 10:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB9S11
Lab Sample ID: 320-103643-4
Date Collected: 08/02/23 10:55
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.02 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 00:40	C1P	EET SAC

Client Sample ID: 108906-SB9S23
Lab Sample ID: 320-103643-5
Date Collected: 08/03/23 10:45
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB9S23
Lab Sample ID: 320-103643-5
Date Collected: 08/03/23 10:45
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.17 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 00:51	C1P	EET SAC

Client Sample ID: 108906-SB9S33
Lab Sample ID: 320-103643-6
Date Collected: 08/03/23 11:00
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB9S33
Lab Sample ID: 320-103643-6
Date Collected: 08/03/23 11:00
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.08 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 01:02	C1P	EET SAC

Client Sample ID: 108906-SB8S1
Lab Sample ID: 320-103643-7
Date Collected: 08/04/23 09:00
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB8S1
Lab Sample ID: 320-103643-7
Date Collected: 08/04/23 09:00
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 65.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 01:25	C1P	EET SAC

Client Sample ID: 108906-SB8S3
Lab Sample ID: 320-103643-8
Date Collected: 08/04/23 10:15
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB8S3
Lab Sample ID: 320-103643-8
Date Collected: 08/04/23 10:15
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.33 g	10.0 mL	699042	08/15/23 19:08	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699642	08/18/23 01:36	C1P	EET SAC

Client Sample ID: 108906-SB8S5
Lab Sample ID: 320-103643-9
Date Collected: 08/04/23 10:55
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB8S5
Lab Sample ID: 320-103643-9
Date Collected: 08/04/23 10:55
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.23 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 04:28	C1P	EET SAC

Client Sample ID: 108906-SB8S8
Lab Sample ID: 320-103643-10
Date Collected: 08/04/23 17:25
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB8S8
Lab Sample ID: 320-103643-10
Date Collected: 08/04/23 17:25
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.22 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 04:39	C1P	EET SAC

Client Sample ID: 108906-SB12S1
Lab Sample ID: 320-103643-11
Date Collected: 08/07/23 08:55
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB12S1
Lab Sample ID: 320-103643-11
Date Collected: 08/07/23 08:55
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.17 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 04:50	C1P	EET SAC

Client Sample ID: 108906-SB12S3
Lab Sample ID: 320-103643-12
Date Collected: 08/07/23 09:10
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB12S3
Lab Sample ID: 320-103643-12
Date Collected: 08/07/23 09:10
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RE		5.06 g	10.0 mL	700780	08/22/23 10:21	EJR	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	702038	08/27/23 22:50	RS1	EET SAC
Total/NA	Prep	SHAKE			5.09 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 05:02	C1P	EET SAC

Client Sample ID: 108906-SB12S5
Lab Sample ID: 320-103643-13
Date Collected: 08/07/23 09:20
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB12S5
Lab Sample ID: 320-103643-13
Date Collected: 08/07/23 09:20
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 05:13	C1P	EET SAC

Client Sample ID: 108906-SB12S11
Lab Sample ID: 320-103643-14
Date Collected: 08/07/23 10:20
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB12S11
Lab Sample ID: 320-103643-14
Date Collected: 08/07/23 10:20
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.34 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 21:50	RS1	EET SAC

Client Sample ID: 108906-SB12S13
Lab Sample ID: 320-103643-15
Date Collected: 08/07/23 11:20
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB12S13
Lab Sample ID: 320-103643-15
Date Collected: 08/07/23 11:20
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.06 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:02	RS1	EET SAC

Client Sample ID: 108906-SB13S1
Lab Sample ID: 320-103643-16
Date Collected: 08/07/23 14:50
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB13S1
Lab Sample ID: 320-103643-16
Date Collected: 08/07/23 14:50
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.22 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:13	RS1	EET SAC
Total/NA	Prep	SHAKE	RE		5.37 g	10.0 mL	700780	08/22/23 10:21	EJR	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	702038	08/27/23 23:23	RS1	EET SAC

Client Sample ID: 108906-SB13S3
Lab Sample ID: 320-103643-17
Date Collected: 08/07/23 15:03
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB13S3
Lab Sample ID: 320-103643-17
Date Collected: 08/07/23 15:03
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.27 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:24	RS1	EET SAC
Total/NA	Prep	SHAKE	RE		5.39 g	10.0 mL	700780	08/22/23 10:21	EJR	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	702038	08/27/23 23:34	RS1	EET SAC

Client Sample ID: 108906-SB13S5
Lab Sample ID: 320-103643-18
Date Collected: 08/07/23 15:15
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB13S5
Lab Sample ID: 320-103643-18
Date Collected: 08/07/23 15:15
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:35	RS1	EET SAC

Client Sample ID: 108906-SB13S11
Lab Sample ID: 320-103643-19
Date Collected: 08/07/23 16:30
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698640	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB13S11
Lab Sample ID: 320-103643-19
Date Collected: 08/07/23 16:30
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 71.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:46	RS1	EET SAC

Client Sample ID: 108906-SB13S15
Lab Sample ID: 320-103643-20
Date Collected: 08/08/23 09:10
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB13S15
Lab Sample ID: 320-103643-20
Date Collected: 08/08/23 09:10
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.42 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 06:43	C1P	EET SAC

Client Sample ID: 108906-SB13S25
Lab Sample ID: 320-103643-21
Date Collected: 08/08/23 09:30
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB13S25
Lab Sample ID: 320-103643-21
Date Collected: 08/08/23 09:30
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 06:54	C1P	EET SAC

Client Sample ID: 108906-SB6S1
Lab Sample ID: 320-103643-22
Date Collected: 08/08/23 13:55
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-SB6S1
Date Collected: 08/08/23 13:55
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-22
Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RE		5.09 g	10.0 mL	700780	08/22/23 10:21	EJR	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	702038	08/27/23 23:45	RS1	EET SAC
Total/NA	Prep	SHAKE			5.20 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 07:06	C1P	EET SAC

Client Sample ID: 108906-SB6S3
Date Collected: 08/08/23 14:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB6S3
Date Collected: 08/08/23 14:05
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-23
Matrix: Solid
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.29 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 07:17	C1P	EET SAC

Client Sample ID: 108906-SB6S5
Date Collected: 08/08/23 14:25
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB6S5
Date Collected: 08/08/23 14:25
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-24
Matrix: Solid
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.21 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 22:58	RS1	EET SAC

Client Sample ID: 108906-SB6S11
Date Collected: 08/09/23 08:50
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB6S11
Lab Sample ID: 320-103643-25
Date Collected: 08/09/23 08:50
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700178	08/19/23 07:39	C1P	EET SAC

Client Sample ID: 108906-SB6S16
Lab Sample ID: 320-103643-26
Date Collected: 08/09/23 12:15
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB6S16
Lab Sample ID: 320-103643-26
Date Collected: 08/09/23 12:15
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.11 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 23:09	RS1	EET SAC

Client Sample ID: 108906-SB6S26
Lab Sample ID: 320-103643-27
Date Collected: 08/09/23 12:30
Matrix: Solid
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			698641	08/14/23 16:00	JCB	EET SAC

Client Sample ID: 108906-SB6S26
Lab Sample ID: 320-103643-27
Date Collected: 08/09/23 12:30
Matrix: Solid
Date Received: 08/11/23 14:52
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	699778	08/17/23 19:42	PV	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700612	08/21/23 23:31	RS1	EET SAC

Client Sample ID: 108906-B9TMW
Lab Sample ID: 320-103643-28
Date Collected: 08/04/23 14:30
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			300.3 mL	10.0 mL	699054	08/16/23 05:22	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699534	08/18/23 04:22	RS1	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-B8TMW
Lab Sample ID: 320-103643-29
Date Collected: 08/05/23 09:20
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			315.9 mL	10.0 mL	699054	08/16/23 05:22	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699534	08/18/23 04:33	RS1	EET SAC

Client Sample ID: 108906-B6TMW
Lab Sample ID: 320-103643-30
Date Collected: 08/09/23 14:30
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			302.3 mL	10.0 mL	700724	08/21/23 19:08	ERR	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	701006	08/22/23 22:23	K1D	EET SAC

Client Sample ID: 108906-B16TMW
Lab Sample ID: 320-103643-31
Date Collected: 08/09/23 15:00
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.9 mL	10.0 mL	700724	08/21/23 19:08	ERR	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	701006	08/22/23 22:34	K1D	EET SAC

Client Sample ID: 108906-FB3
Lab Sample ID: 320-103643-32
Date Collected: 08/03/23 10:40
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			262.6 mL	10.0 mL	699054	08/16/23 05:22	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699534	08/18/23 04:43	RS1	EET SAC

Client Sample ID: 108906-EB3
Lab Sample ID: 320-103643-33
Date Collected: 08/07/23 18:05
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			286.9 mL	10.0 mL	700266	08/19/23 08:46	JS	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	700525	08/21/23 22:39	S1C	EET SAC

Client Sample ID: 108906-FB4
Lab Sample ID: 320-103643-34
Date Collected: 08/09/23 08:45
Matrix: Water
Date Received: 08/11/23 14:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			303.4 mL	10.0 mL	700724	08/21/23 19:08	ERR	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	701006	08/22/23 22:57	K1D	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Client Sample ID: 108906-EB4

Date Collected: 08/09/23 12:35
Date Received: 08/11/23 14:52

Lab Sample ID: 320-103643-35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.1 mL	10.0 mL	700724	08/21/23 19:08	ERR	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	701006	08/22/23 23:08	K1D	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

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
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-103643-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-103643-1	108906-SB9S1	Solid	08/02/23 09:05	08/11/23 14:52
320-103643-2	108906-SB9S3	Solid	08/02/23 09:15	08/11/23 14:52
320-103643-3	108906-SB9S5	Solid	08/02/23 09:40	08/11/23 14:52
320-103643-4	108906-SB9S11	Solid	08/02/23 10:55	08/11/23 14:52
320-103643-5	108906-SB9S23	Solid	08/03/23 10:45	08/11/23 14:52
320-103643-6	108906-SB9S33	Solid	08/03/23 11:00	08/11/23 14:52
320-103643-7	108906-SB8S1	Solid	08/04/23 09:00	08/11/23 14:52
320-103643-8	108906-SB8S3	Solid	08/04/23 10:15	08/11/23 14:52
320-103643-9	108906-SB8S5	Solid	08/04/23 10:55	08/11/23 14:52
320-103643-10	108906-SB8S8	Solid	08/04/23 17:25	08/11/23 14:52
320-103643-11	108906-SB12S1	Solid	08/07/23 08:55	08/11/23 14:52
320-103643-12	108906-SB12S3	Solid	08/07/23 09:10	08/11/23 14:52
320-103643-13	108906-SB12S5	Solid	08/07/23 09:20	08/11/23 14:52
320-103643-14	108906-SB12S11	Solid	08/07/23 10:20	08/11/23 14:52
320-103643-15	108906-SB12S13	Solid	08/07/23 11:20	08/11/23 14:52
320-103643-16	108906-SB13S1	Solid	08/07/23 14:50	08/11/23 14:52
320-103643-17	108906-SB13S3	Solid	08/07/23 15:03	08/11/23 14:52
320-103643-18	108906-SB13S5	Solid	08/07/23 15:15	08/11/23 14:52
320-103643-19	108906-SB13S11	Solid	08/07/23 16:30	08/11/23 14:52
320-103643-20	108906-SB13S15	Solid	08/08/23 09:10	08/11/23 14:52
320-103643-21	108906-SB13S25	Solid	08/08/23 09:30	08/11/23 14:52
320-103643-22	108906-SB6S1	Solid	08/08/23 13:55	08/11/23 14:52
320-103643-23	108906-SB6S3	Solid	08/08/23 14:05	08/11/23 14:52
320-103643-24	108906-SB6S5	Solid	08/08/23 14:25	08/11/23 14:52
320-103643-25	108906-SB6S11	Solid	08/09/23 08:50	08/11/23 14:52
320-103643-26	108906-SB6S16	Solid	08/09/23 12:15	08/11/23 14:52
320-103643-27	108906-SB6S26	Solid	08/09/23 12:30	08/11/23 14:52
320-103643-28	108906-B9TMW	Water	08/04/23 14:30	08/11/23 14:52
320-103643-29	108906-B8TMW	Water	08/05/23 09:20	08/11/23 14:52
320-103643-30	108906-B6TMW	Water	08/09/23 14:30	08/11/23 14:52
320-103643-31	108906-B16TMW	Water	08/09/23 15:00	08/11/23 14:52
320-103643-32	108906-FB3	Water	08/03/23 10:40	08/11/23 14:52
320-103643-33	108906-EB3	Water	08/07/23 18:05	08/11/23 14:52
320-103643-34	108906-FB4	Water	08/09/23 08:45	08/11/23 14:52
320-103643-35	108906-EB4	Water	08/09/23 12:35	08/11/23 14:52

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins

Environment Testing America

Client Contact	Report To Dan.McMahon@shanwil.com	Site Contact:	Date: 8/10/23	COC No 1
Shannon & Wilson, Inc.	Alec.Rizzo@shanwil.com	Lab Contact: David Alltucker	Carrier AK Goldstreak	1 of 3 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No 108906
Anchorage, Alaska 99518	Calendar (C) or Work Days (W)			
Phone: 907-561-2120	TAT if different from Below			
FAX.	☒ 2 weeks			SDG No.
Project Name: ANC Fire Training Pit	☐ 1 week			
Site:	☐ 2 days			
P O # 108906	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes:
108906-SB9S1	8/2/2023	9:05	G	S	1		X	
108906-SB9S3	8/2/2023	9:15	G	S	1		X	
108906-SB9S5	8/2/2023	9:40	G	S	1		X	
108906-SB9S11	8/2/2023	10:55	G	S	1		X	
108906-SB9S23	8/3/2023	10:45	G	S	1		X	
108906-SB9S33	8/3/2023	11:00	G	S	1		X	
108906-SB8S1	8/4/2023	9:00	G	S	1		X	
108906-SB8S3	8/4/2023	10:15	G	S	1		X	
108906-SB8S5	8/4/2023	10:55	G	S	1		X	
108906-SB8S8	8/4/2023	17:25	G	S	1		X	
108906-SB12S1	8/7/2023	8 55	G	S	1		X	
108906-SB12S3	8/7/2023	9:10	G	S	1		X	

320-103643 Chain of Custody

Preservation Used: 1= Ice, 2= HCl 3= H2SO4 4=HNO3 5=NaOH, 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☒ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments

17

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Shannon & Wilson	8/10/23 1015	[signature]	EETCA	8 11 23 1452
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins Environment Testing America

Client Contact	Report To Dan.McMahon@shanwil.com	Site Contact:	Date: 8/10/23	COC No 1
Shannon & Wilson Inc.	Alec.Rizzo@shanwil.com	Lab Contact: David Alltucker	Carrier: AK Goldstreak	2 of 3 COCs
5430 Fairbanks Street, Suite 3	**Analysis Turnaround Time**			Job No. 108906
Anchorage, Alaska 99518	Calendar (C) or Work Days (W) _____			
Phone: 907-561-2120	TAT if different from Below _____			
FAX.	☒ 2 weeks			SDG No.
Project Name: ANC Fire Training Pit	☐ 1 week			
Site	☐ 2 days			
P O # 108906	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes
108906-SB12S5	8/7/2023	9:20	G	S	1		X	
108906-SB12S11	8/7/2023	10:20	G	S	1		X	
108906-SB12S13	8/7/2023	11:20	G	S	1		X	
108906-SB13S1	8/7/2023	14:50	G	S	1		X	
108906-SB13S3	8/7/2023	15:03	G	S	1		X	
108906-SB13S5	8/7/2023	15 15	G	S	1		X	
108906-SB13S11	8/7/2023	16.30	G	S	1		X	
108906-SB13S15	8/8/2023	9:10	G	S	1		X	
108906-SB13S25	8/8/2023	9.30	G	S	1		X	
108906-SB6S1	8/8/2023	13.55	G	S	1		X	
108906-SB6S3	8/8/2023	14:05	G	S	1		X	
108906-SB6S5	8/8/2023	14:25	G	S	1		X	

Preservation Used 1= Ice, 2= HCl, 3= H2SO4; 4=HNO3 5=NaOH 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

17

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Shannon + Wilson	8/10/23 1015		EETCA	8/11/23 1452
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins | Environment Testing America

Client Contact	Report To: Dan.McMahon@shanwil.com	Site Contact:	Date: 8/10/23	COC No: 1
Shannon & Wilson Inc.	Alec.Rizzo@shanwil.com	Lab Contact: David Alltucker	Carrier: AK Goldstreak	3 of 3 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No 108906
Anchorage, Alaska 99518	Calendar (C) or Work Days (W) _____			
Phone: 907-561-2120	TAT if different from Below _____			SDG No.
FAX.	☒ 2 weeks			
Project Name. ANC Fire Training Pit	☐ 1 week			
Site:	☐ 2 days			
P O # 108906	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes.
108906-SB6S11	8/9/2023	8.50	G	S	1		X	
108906-SB6S16	8/9/2023	12 15	G	S	1		X	
108906-SB6S26	8/9/2023	12:30	G	S	1		X	
108906-B9TMW	8/4/2023	14:30	G	W	2		X	
108906-B8TMW	8/5/2023	9:20	G	W	2		X	
108906-B6TMW	8/9/2023	14:30	G	W	2		X	
108906-B16TMW	8/9/2023	15:00	G	W	2		X	
108906-FB3	8/3/2023	10:40	G	W	2		X	Field Blank
108906-EB3	8/7/2023	18:05	G	W	2		X	Equipment Blank
108906-FB4	8/9/2023	8:45	G	W	2		X	Field Blank
108906-EB4	8/9/2023	12.35	G	W	2		X	Equipment Blank

Preservation Used: 1 Ice, 2= HCl 3= H2SO4; 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☒ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments

17

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Shannon + Wilson	8/10/23 1915		EETCA	8 11 23 1452
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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8/29/2023

eurofins | Environment Testing

Sacramento
Sample Receiving Notes

Loc 320
103643

Tracking # 027 ANC 986368882

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal Cooler Custody Seal Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm ID L04 Corr Factor (+ / -) _____ °C

Ice_____ Wet_____ Gel X Other _____

Cooler Custody Seal SEAL

Cooler ID _____

Temp Observed 1.7 °C Corrected 1.7 °C

From Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 8/11/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date: 8/11/23

Notes _____

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 8/11/23

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-103643-1

Login Number: 103643
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-103643-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	8/29/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments: *PFAS by QSM 5.3 Table B-15.*

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 1.7° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
-Method EPA 537(Mod): The method blank for preparation batch 320-699778 contained Perfluorooctanesulfonic acid (PFOS) above the half reporting limit (1/2RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.108906-SB8S5 (320-103643-9), 108906-SB12S5 (320-103643-13), 108906-SB12S11 (320-103643-14), 108906-SB12S13 (320-103643-15), 108906-SB13S5 (320-103643-18), 108906-SB13S11 (320-103643-19),108906-SB13S15 (320-103643-20), 108906-SB13S25 (320-103643-21), 108906-SB6S3 (320-103643-23), 108906-SB6S5 (320-103643-24), 108906-SB6S11 (320-103643-25), 108906-SB6S16 (320-103643-26), 108906-SB6S26 (320-103643-27) and (MB 320-699778/1-A).
-Method EPA 537(Mod): Perfluorooctanesulfonic acid (PFOS) was detected above the half reporting limit (1/2RL) in the method blank associated with preparation batch 320-699778 and analytical batch 320-700178 as well as in the following samples: 108906-SB12S3 (320-103643-12), 108906-SB13S1 (320-103643-16), 108906-SB13S3 (320-103643-17), 108906-SB6S1 (320-103643-22) and (MB 320-699778/1-A). All affected samples were re-extracted outside of holding time. Both sets of data have been reported.

-Method EPA 537(Mod): The method blank for preparation batch 320-699778 and analytical batch 320-700178 contained Perfluorooctanesulfonic acid (PFOS) above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank. 108906-SB12S1 (320-103643-11) and (MB 320-699778/1-A).
-Method EPA 537(Mod): The laboratory control sample duplicate (LCSD) for preparation batch 320-700266 and analytical batch 320-700525 recovered outside control limits for the following analyte: Hexafluoropropylene Oxide Dimer Acid (HFPO-DA). The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.
-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples are below the method recommended limit: 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.
-Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. (MB 320-699778/1-A)
-Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte: 108906-B16TMW (320-103643-31).
-Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-699054.
-Method 3535: The following samples in preparation batch 320-699054 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-B9TMW (320-103643-28) and 108906-B8TMW (320-103643-29).
-Method 3535: During the solid phase extraction process, the following samples contain non-settleable particulates which clogged the solid phase extraction column: 108906-B9TMW (320-103643-28) and 108906-B8TMW (320-103643-29)preparation batch 320-699054.
-Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-700266.
-Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-700724.
-Method 3535: The following samples in preparation batch 320-700724 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31).

-Method 3535: During the solid phase extraction process, the following samples contain non-settable particulates which clogged the solid phase extraction column: 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31). preparation batch 320-700724.
-Method SHAKE: The following samples were re-prepared outside of preparation holding time due to a Method Blank (MB) detection for PFOS: 108906-SB12S3 (320-103643-12), 108906-SB13S1 (320-103643-16), 108906-SB13S3 (320-103643-17), 108906-SB6S1 (320-103643-22), (320-103643-A-12 MS) and (320-103643-A-12 MSD). preparation batch 320-700780

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: *PFAS by QSM 5.3 Table B-15.*

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments*: An estimated concentration of PFOS (0.000124 mg/kg) was detected in a project soil method blank. In addition, an estimated concentration of hexafluoropropylene oxide dimer acid (0.00157 µg/L) was detected in a project groundwater method blank.*

iii. If above LoQ or RL, what samples are affected?
Comments: *The following samples are potentially affected:*
-PFOS Detection: Samples SB6S1, SB12S1, SB12S3, SB12S13, SB13S1, SB13S3, SB13S5, SB13S11, SB6S5, SB6S16, and SB6S26.
-Hexafluoropropylene Oxide Dimer Acid Detection: Sample EB3

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is less than 10x the reported method blank concentration. The concentration of PFOS in Samples SB6S1, SB12S3, SB13S1, and SB13S3 are less than 10 times the method blank detection; therefore, the sample concentrations are "B" flagged in Table 3 and reported as non-detect at the reported concentration. The concentration of PFOS in Sample SB12S1 is greater than 10 times the method blank detection. Therefore, the analytical results are considered unaffected by the method blank detection and the result is reported at the detected value.*

For the groundwater method blank, hexafluoropropylene oxide dimer acid was not detected in the affected sample. Therefore, flagging is not required.

v. Data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments*: The case narrative noted the following:*
-Method EPA 537(Mod): The laboratory control sample duplicate (LCSD) for preparation batch 320-700266 and analytical batch 320-700525 recovered outside control limits for the following analyte: Hexafluoropropylene Oxide Dimer Acid (HFPO-DA). The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *Sample EB3 is potentially affected.*

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *The analyte was not detected in the affected sample. Therefore, flagging is not required.*

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: The case narrative noted the following:
-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples are below the method recommended limit: 108906-B6TMW (320-103643-30) and 108906-B16TMW (320-103643-31). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *The affected analytes were reported as non-detect in the Samples B6TMW and B16TMW. Therefore, flagging is not required.*

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐

Comments: *Soil Samples SB6S26 (duplicate of SB6S16), SB9S33 (duplicate of Sample SB9S23) and SB13S25 (duplicate of SB13S15) and groundwater Sample B16TMW (duplicate of B6TMW) were included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *PFOS in primary/duplicate Samples B6TMW/B16TMW were outside QC criteria and are flagged "E" in Table 3. The analytes in the remaining primary/duplicate sample sets were reported as non-detect. Therefore, RPDs could not be calculated for these analytes.*

iv. Is the data quality or usability affected? (Explain)
Yes ☒ No ☐ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: *Two equipment blanks (Samples EB3 and EB4) and two field blanks (Samples FB3 and FB4) were included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907)433-3223

Report Number: **1231046**

Client Project: **108906-002; ANC Fire Training**

Dear Dan McMahon,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Justin Nelson
2023.03.31
16:19:40 -08'00'

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

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Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1231046**
Project Name/Site: **108906-002; ANC Fire Training**
Project Contact: **Dan McMahon**

Refer to sample receipt form for information on sample condition.

MB for HBN 1852732 [XXX/47628] (1706959) MB

AK102 - DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.
AK103 - RRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM LV (PAH)				
1231046003	108906 - B12MW	XMS13570	Benzo(a)Anthracene	RP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

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Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
108906 - B1MW	1231046001	03/16/2023	03/17/2023	Water (Surface, Eff., Ground)
108906 - B2MW	1231046002	03/17/2023	03/17/2023	Water (Surface, Eff., Ground)
108906 - B12MW	1231046003	03/17/2023	03/17/2023	Water (Surface, Eff., Ground)
108906 - WTB	1231046004	03/16/2023	03/17/2023	Water (Surface, Eff., Ground)

Method	Method Description
8270D SIM LV (PAH)	8270 PAH SIM GC/MS LV
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
AK101	Gasoline Range Organics (W)
SW8260D	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **108906 - B1MW**
Lab Sample ID: 1231046001

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	1.61	mg/L
	Residual Range Organics	1.12	mg/L
Volatile GC/MS	Chloromethane	0.375J	ug/L

Client Sample ID: **108906 - B2MW**
Lab Sample ID: 1231046002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Benzo(a)Anthracene	0.0724	ug/L
	Benzo[a]pyrene	0.0458	ug/L
	Benzo[b]Fluoranthene	0.0850	ug/L
	Benzo[g,h,i]perylene	0.0172J	ug/L
	Benzo[k]fluoranthene	0.0455J	ug/L
	Chrysene	0.0563	ug/L
	Dibenzo[a,h]anthracene	0.0169J	ug/L
	Fluoranthene	0.0402J	ug/L
	Indeno[1,2,3-c,d] pyrene	0.0280J	ug/L
	Pyrene	0.0375J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.15	mg/L
	Residual Range Organics	0.798	mg/L
Volatile GC/MS	Chloromethane	0.502J	ug/L

Client Sample ID: **108906 - B12MW**
Lab Sample ID: 1231046003

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Benzo(a)Anthracene	0.0194J	ug/L
	Benzo[a]pyrene	0.0100J	ug/L
	Benzo[b]Fluoranthene	0.0162J	ug/L
	Chrysene	0.0157J	ug/L
	Dibenzo[a,h]anthracene	0.0105J	ug/L
	Fluoranthene	0.0234J	ug/L
	Phenanthrene	0.0317J	ug/L
	Pyrene	0.0206J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.15	mg/L
	Residual Range Organics	0.823	mg/L
Volatile GC/MS	Chloromethane	0.373J	ug/L

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Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
2-Methylnaphthalene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Acenaphthene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Acenaphthylene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Anthracene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Benzo(a)Anthracene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Benzo[a]pyrene	0.00945	U	0.0189	0.00585	0.00945	ug/L	1		03/23/23 20:15
Benzo[b]Fluoranthene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Benzo[g,h,i]perylene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Benzo[k]fluoranthene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Chrysene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Dibenzo[a,h]anthracene	0.00945	U	0.0189	0.00585	0.00945	ug/L	1		03/23/23 20:15
Fluoranthene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Fluorene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Indeno[1,2,3-c,d] pyrene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Naphthalene	0.0471	U	0.0943	0.0292	0.0471	ug/L	1		03/23/23 20:15
Phenanthrene	0.0471	U	0.0943	0.0292	0.0471	ug/L	1		03/23/23 20:15
Pyrene	0.0236	U	0.0472	0.0142	0.0236	ug/L	1		03/23/23 20:15
Surrogates									
2-Methylnaphthalene-d10 (surr)	67.8		38-100			%	1		03/23/23 20:15
Fluoranthene-d10 (surr)	62.7		30-111			%	1		03/23/23 20:15

Batch Information

Analytical Batch: XMS13570
Analytical Method: 8270D SIM LV (PAH)
Analyst: NRB
Analytical Date/Time: 03/23/23 20:15
Container ID: 1231046001-I

Prep Batch: XXX47618
Prep Method: SW3535A
Prep Date/Time: 03/20/23 13:50
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.61		0.566	0.189	0.283	mg/L	1		03/23/23 21:38
Surrogates									
5a Androstane (surr)	71.8		50-150			%	1		03/23/23 21:38

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 03/23/23 21:38
Container ID: 1231046001-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1.12		0.472	0.189	0.236	mg/L	1		03/23/23 21:38
Surrogates									
n-Triacontane-d62 (surr)	90.3		50-150			%	1		03/23/23 21:38

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 03/23/23 21:38
Container ID: 1231046001-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	0.0500	mg/L	1		03/20/23 20:59
Surrogates									
4-Bromofluorobenzene (surr)	91.6		50-150			%	1		03/20/23 20:59

Batch Information

Analytical Batch: VFC16407
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 03/20/23 20:59
Container ID: 1231046001-A

Prep Batch: VXX39691
Prep Method: SW5030B
Prep Date/Time: 03/20/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
1,1,1-Trichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
1,1,2-Trichloroethane	0.200	U	0.400	0.120	0.200	ug/L	1		03/21/23 22:16
1,1-Dichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,1-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,1-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2,3-Trichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	0.0375	ug/L	1		03/21/23 22:16
1,2-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,2-Dichloroethane	0.250	U	0.500	0.200	0.250	ug/L	1		03/21/23 22:16
1,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,3-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
1,3-Dichloropropane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
1,4-Dichlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
2,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
2-Butanone (MEK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
2-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
2-Hexanone	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
4-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
4-Isopropyltoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Benzene	0.200	U	0.400	0.120	0.200	ug/L	1		03/21/23 22:16
Bromobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Bromochloromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Bromodichloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
Bromoform	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Bromomethane	3.00	U	6.00	3.00	3.00	ug/L	1		03/21/23 22:16
Carbon disulfide	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Carbon tetrachloride	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Chlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
Chloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16

Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Chloromethane	0.375	J	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
Dibromochloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
Dibromomethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Dichlorodifluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Ethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Freon-113	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Hexachlorobutadiene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Methylene chloride	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Methyl-t-butyl ether	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Naphthalene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
n-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
n-Propylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
o-Xylene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
P & M -Xylene	1.00	U	2.00	0.620	1.00	ug/L	1		03/21/23 22:16
sec-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Styrene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
tert-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Tetrachloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Toluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Trichloroethene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 22:16
Trichlorofluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 22:16
Vinyl acetate	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 22:16
Vinyl chloride	0.0750	U	0.150	0.0500	0.0750	ug/L	1		03/21/23 22:16
Xylenes (total)	1.50	U	3.00	1.00	1.50	ug/L	1		03/21/23 22:16
Surrogates									
1,2-Dichloroethane-D4 (surr)	106		81-118			%	1		03/21/23 22:16
4-Bromofluorobenzene (surr)	95.6		85-114			%	1		03/21/23 22:16
Toluene-d8 (surr)	95.6		89-112			%	1		03/21/23 22:16

Print Date: 03/31/2023 1:04:41PM

J flagging is activated

Results of **108906 - B1MW**

Client Sample ID: **108906 - B1MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046001
Lab Project ID: 1231046

Collection Date: 03/16/23 10:32
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22301
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 03/21/23 22:16
Container ID: 1231046001-F

Prep Batch: VXX39698
Prep Method: SW5030B
Prep Date/Time: 03/21/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
2-Methylnaphthalene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Acenaphthene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Acenaphthylene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Anthracene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Benzo(a)Anthracene	0.0724		0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Benzo[a]pyrene	0.0458		0.0192	0.00596	0.00960	ug/L	1		03/23/23 20:35
Benzo[b]Fluoranthene	0.0850		0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Benzo[g,h,i]perylene	0.0172	J	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Benzo[k]fluoranthene	0.0455	J	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Chrysene	0.0563		0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Dibenzo[a,h]anthracene	0.0169	J	0.0192	0.00596	0.00960	ug/L	1		03/23/23 20:35
Fluoranthene	0.0402	J	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Fluorene	0.0240	U	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Indeno[1,2,3-c,d] pyrene	0.0280	J	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Naphthalene	0.0481	U	0.0962	0.0298	0.0481	ug/L	1		03/23/23 20:35
Phenanthrene	0.0481	U	0.0962	0.0298	0.0481	ug/L	1		03/23/23 20:35
Pyrene	0.0375	J	0.0481	0.0144	0.0240	ug/L	1		03/23/23 20:35
Surrogates									
2-Methylnaphthalene-d10 (surr)	73.5		38-100			%	1		03/23/23 20:35
Fluoranthene-d10 (surr)	76.9		30-111			%	1		03/23/23 20:35

Batch Information

Analytical Batch: XMS13570
Analytical Method: 8270D SIM LV (PAH)
Analyst: NRB
Analytical Date/Time: 03/23/23 20:35
Container ID: 1231046002-I

Prep Batch: XXX47618
Prep Method: SW3535A
Prep Date/Time: 03/20/23 13:50
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 03/31/2023 1:04:41PM

J flagging is activated

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.15		0.577	0.192	0.288	mg/L	1		03/23/23 22:07
Surrogates									
5a Androstane (surr)	76.1		50-150			%	1		03/23/23 22:07

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 03/23/23 22:07
Container ID: 1231046002-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.798		0.481	0.192	0.240	mg/L	1		03/23/23 22:07
Surrogates									
n-Triacontane-d62 (surr)	80.8		50-150			%	1		03/23/23 22:07

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 03/23/23 22:07
Container ID: 1231046002-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	0.0500	mg/L	1		03/20/23 21:17
Surrogates									
4-Bromofluorobenzene (surr)	95.9		50-150			%	1		03/20/23 21:17

Batch Information

Analytical Batch: VFC16407
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 03/20/23 21:17
Container ID: 1231046002-A

Prep Batch: VXX39691
Prep Method: SW5030B
Prep Date/Time: 03/20/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
1,1,1-Trichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
1,1,2-Trichloroethane	0.200	U	0.400	0.120	0.200	ug/L	1		03/23/23 16:19
1,1-Dichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,1-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,1-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2,3-Trichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	0.0375	ug/L	1		03/23/23 16:19
1,2-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,2-Dichloroethane	0.250	U	0.500	0.200	0.250	ug/L	1		03/23/23 16:19
1,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,3-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
1,3-Dichloropropane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
1,4-Dichlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
2,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
2-Butanone (MEK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
2-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
2-Hexanone	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
4-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
4-Isopropyltoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Benzene	0.200	U	0.400	0.120	0.200	ug/L	1		03/23/23 16:19
Bromobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Bromochloromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Bromodichloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
Bromoform	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Bromomethane	3.00	U	6.00	3.00	3.00	ug/L	1		03/23/23 16:19
Carbon disulfide	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Carbon tetrachloride	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Chlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
Chloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Chloromethane	0.502	J	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
Dibromochloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
Dibromomethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Dichlorodifluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Ethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Freon-113	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Hexachlorobutadiene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Methylene chloride	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Methyl-t-butyl ether	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Naphthalene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
n-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
n-Propylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
o-Xylene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
P & M -Xylene	1.00	U	2.00	0.620	1.00	ug/L	1		03/23/23 16:19
sec-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Styrene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
tert-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Tetrachloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Toluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Trichloroethene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:19
Trichlorofluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:19
Vinyl acetate	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:19
Vinyl chloride	0.0750	U	0.150	0.0500	0.0750	ug/L	1		03/23/23 16:19
Xylenes (total)	1.50	U	3.00	1.00	1.50	ug/L	1		03/23/23 16:19
Surrogates									
1,2-Dichloroethane-D4 (surr)	97.6		81-118			%	1		03/23/23 16:19
4-Bromofluorobenzene (surr)	101		85-114			%	1		03/23/23 16:19
Toluene-d8 (surr)	96		89-112			%	1		03/23/23 16:19

Print Date: 03/31/2023 1:04:41PM

J flagging is activated

Results of **108906 - B2MW**

Client Sample ID: **108906 - B2MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046002
Lab Project ID: 1231046

Collection Date: 03/17/23 13:30
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 03/23/23 16:19
Container ID: 1231046002-G

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 03/23/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
2-Methylnaphthalene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Acenaphthene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Acenaphthylene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Anthracene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Benzo(a)Anthracene	0.0194	J	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Benzo[a]pyrene	0.0100	J	0.0196	0.00608	0.00980	ug/L	1		03/23/23 20:56
Benzo[b]Fluoranthene	0.0162	J	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Benzo[g,h,i]perylene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Benzo[k]fluoranthene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Chrysene	0.0157	J	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Dibenzo[a,h]anthracene	0.0105	J	0.0196	0.00608	0.00980	ug/L	1		03/23/23 20:56
Fluoranthene	0.0234	J	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Fluorene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Indeno[1,2,3-c,d] pyrene	0.0245	U	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Naphthalene	0.0490	U	0.0980	0.0304	0.0490	ug/L	1		03/23/23 20:56
Phenanthrene	0.0317	J	0.0980	0.0304	0.0490	ug/L	1		03/23/23 20:56
Pyrene	0.0206	J	0.0490	0.0147	0.0245	ug/L	1		03/23/23 20:56
Surrogates									
2-Methylnaphthalene-d10 (surr)	69.9		38-100			%	1		03/23/23 20:56
Fluoranthene-d10 (surr)	73.3		30-111			%	1		03/23/23 20:56

Batch Information

Analytical Batch: XMS13570
Analytical Method: 8270D SIM LV (PAH)
Analyst: NRB
Analytical Date/Time: 03/23/23 20:56
Container ID: 1231046003-I

Prep Batch: XXX47618
Prep Method: SW3535A
Prep Date/Time: 03/20/23 13:50
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.15		0.566	0.189	0.283	mg/L	1		03/23/23 22:17
Surrogates									
5a Androstane (surr)	73.4		50-150			%	1		03/23/23 22:17

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 03/23/23 22:17
Container ID: 1231046003-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.823		0.472	0.189	0.236	mg/L	1		03/23/23 22:17
Surrogates									
n-Triacontane-d62 (surr)	77.5		50-150			%	1		03/23/23 22:17

Batch Information

Analytical Batch: XFC16472
Analytical Method: AK103
Analyst: T.L
Analytical Date/Time: 03/23/23 22:17
Container ID: 1231046003-D

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 03/22/23 16:41
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	0.0500	mg/L	1		03/20/23 21:36
Surrogates									
4-Bromofluorobenzene (surr)	92.5		50-150			%	1		03/20/23 21:36

Batch Information

Analytical Batch: VFC16407
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 03/20/23 21:36
Container ID: 1231046003-A

Prep Batch: VXX39691
Prep Method: SW5030B
Prep Date/Time: 03/20/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
1,1,1-Trichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
1,1,2-Trichloroethane	0.200	U	0.400	0.120	0.200	ug/L	1		03/23/23 16:34
1,1-Dichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,1-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,1-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2,3-Trichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	0.0375	ug/L	1		03/23/23 16:34
1,2-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,2-Dichloroethane	0.250	U	0.500	0.200	0.250	ug/L	1		03/23/23 16:34
1,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,3-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
1,3-Dichloropropane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
1,4-Dichlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
2,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
2-Butanone (MEK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
2-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
2-Hexanone	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
4-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
4-Isopropyltoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Benzene	0.200	U	0.400	0.120	0.200	ug/L	1		03/23/23 16:34
Bromobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Bromochloromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Bromodichloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
Bromoform	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Bromomethane	3.00	U	6.00	3.00	3.00	ug/L	1		03/23/23 16:34
Carbon disulfide	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Carbon tetrachloride	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Chlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
Chloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Chloromethane	0.373	J	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
Dibromochloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
Dibromomethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Dichlorodifluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Ethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Freon-113	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Hexachlorobutadiene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Methylene chloride	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Methyl-t-butyl ether	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Naphthalene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
n-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
n-Propylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
o-Xylene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
P & M -Xylene	1.00	U	2.00	0.620	1.00	ug/L	1		03/23/23 16:34
sec-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Styrene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
tert-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Tetrachloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Toluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Trichloroethene	0.250	U	0.500	0.150	0.250	ug/L	1		03/23/23 16:34
Trichlorofluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/23/23 16:34
Vinyl acetate	5.00	U	10.0	3.10	5.00	ug/L	1		03/23/23 16:34
Vinyl chloride	0.0750	U	0.150	0.0500	0.0750	ug/L	1		03/23/23 16:34
Xylenes (total)	1.50	U	3.00	1.00	1.50	ug/L	1		03/23/23 16:34
Surrogates									
1,2-Dichloroethane-D4 (surr)	101		81-118			%	1		03/23/23 16:34
4-Bromofluorobenzene (surr)	98.7		85-114			%	1		03/23/23 16:34
Toluene-d8 (surr)	96		89-112			%	1		03/23/23 16:34

Print Date: 03/31/2023 1:04:41PM

J flagging is activated

Results of **108906 - B12MW**

Client Sample ID: **108906 - B12MW**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046003
Lab Project ID: 1231046

Collection Date: 03/17/23 14:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 03/23/23 16:34
Container ID: 1231046003-G

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 03/23/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - WTB**

Client Sample ID: **108906 - WTB**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046004
Lab Project ID: 1231046

Collection Date: 03/16/23 09:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	0.0500	mg/L	1		03/20/23 19:27
Surrogates									
4-Bromofluorobenzene (surr)	98.3		50-150			%	1		03/20/23 19:27

Batch Information

Analytical Batch: VFC16407
Analytical Method: AK101
Analyst: JY
Analytical Date/Time: 03/20/23 19:27
Container ID: 1231046004-A

Prep Batch: VXX39691
Prep Method: SW5030B
Prep Date/Time: 03/20/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **108906 - WTB**

Client Sample ID: **108906 - WTB**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046004
Lab Project ID: 1231046

Collection Date: 03/16/23 09:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
1,1,1-Trichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
1,1,2-Trichloroethane	0.200	U	0.400	0.120	0.200	ug/L	1		03/21/23 19:31
1,1-Dichloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,1-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,1-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2,3-Trichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	0.0375	ug/L	1		03/21/23 19:31
1,2-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,2-Dichloroethane	0.250	U	0.500	0.200	0.250	ug/L	1		03/21/23 19:31
1,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,3-Dichlorobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
1,3-Dichloropropane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
1,4-Dichlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
2,2-Dichloropropane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
2-Butanone (MEK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
2-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
2-Hexanone	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
4-Chlorotoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
4-Isopropyltoluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Benzene	0.200	U	0.400	0.120	0.200	ug/L	1		03/21/23 19:31
Bromobenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Bromochloromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Bromodichloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
Bromoform	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Bromomethane	3.00	U	6.00	3.00	3.00	ug/L	1		03/21/23 19:31
Carbon disulfide	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Carbon tetrachloride	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Chlorobenzene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
Chloroethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31

Results of **108906 - WTB**

Client Sample ID: **108906 - WTB**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046004
Lab Project ID: 1231046

Collection Date: 03/16/23 09:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Chloromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
Dibromochloromethane	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
Dibromomethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Dichlorodifluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Ethylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Freon-113	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Hexachlorobutadiene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Methylene chloride	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Methyl-t-butyl ether	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Naphthalene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
n-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
n-Propylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
o-Xylene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
P & M -Xylene	1.00	U	2.00	0.620	1.00	ug/L	1		03/21/23 19:31
sec-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Styrene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
tert-Butylbenzene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Tetrachloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Toluene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Trichloroethene	0.250	U	0.500	0.150	0.250	ug/L	1		03/21/23 19:31
Trichlorofluoromethane	0.500	U	1.00	0.310	0.500	ug/L	1		03/21/23 19:31
Vinyl acetate	5.00	U	10.0	3.10	5.00	ug/L	1		03/21/23 19:31
Vinyl chloride	0.0750	U	0.150	0.0500	0.0750	ug/L	1		03/21/23 19:31
Xylenes (total)	1.50	U	3.00	1.00	1.50	ug/L	1		03/21/23 19:31
Surrogates									
1,2-Dichloroethane-D4 (surr)	96.5		81-118			%	1		03/21/23 19:31
4-Bromofluorobenzene (surr)	102		85-114			%	1		03/21/23 19:31
Toluene-d8 (surr)	96.7		89-112			%	1		03/21/23 19:31

Results of **108906 - WTB**

Client Sample ID: **108906 - WTB**
Client Project ID: **108906-002; ANC Fire Training**
Lab Sample ID: 1231046004
Lab Project ID: 1231046

Collection Date: 03/16/23 09:00
Received Date: 03/17/23 15:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22301
Analytical Method: SW8260D
Analyst: PHK
Analytical Date/Time: 03/21/23 19:31
Container ID: 1231046004-D

Prep Batch: VXX39698
Prep Method: SW5030B
Prep Date/Time: 03/21/23 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1852673 [VXX/39691]
Blank Lab ID: 1706728

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046002, 1231046003, 1231046004

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	0.0500U	0.100	0.0450	0.0500	mg/L
Surrogates					
4-Bromofluorobenzene (surr)	94.7	50-150		0	%

Batch Information

Analytical Batch: VFC16407
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: JY
Analytical Date/Time: 3/20/2023 11:06:00AM

Prep Batch: VXX39691
Prep Method: SW5030B
Prep Date/Time: 3/20/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39691]
Blank Spike Lab ID: 1706729
Date Analyzed: 03/20/2023 11:42

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39691]
Spike Duplicate Lab ID: 1706730
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046002, 1231046003, 1231046004

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.961	96	1.00	1.11	111	(60-120)	14.30	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		100	0.0500		101	(50-150)	0.92	

Batch Information

Analytical Batch: **VFC16407**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **JY**

Prep Batch: **VXX39691**
Prep Method: **SW5030B**
Prep Date/Time: **03/20/2023 06:00**
Spike Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 0.0500 mg/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1852748 [VXX/39698]
Blank Lab ID: 1707014

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046004

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	0.200	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	5.00	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	0.0375	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	0.250	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	0.250	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	0.250	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	5.00	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
2-Hexanone	5.00U	10.0	3.10	5.00	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	0.500	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	5.00	ug/L
Benzene	0.200U	0.400	0.120	0.200	ug/L
Bromobenzene	0.500U	1.00	0.310	0.500	ug/L
Bromochloromethane	0.500U	1.00	0.310	0.500	ug/L
Bromodichloromethane	0.250U	0.500	0.150	0.250	ug/L
Bromoform	0.500U	1.00	0.310	0.500	ug/L
Bromomethane	3.00U	6.00	3.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	5.00	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	0.500	ug/L
Chlorobenzene	0.250U	0.500	0.150	0.250	ug/L
Chloroethane	0.500U	1.00	0.310	0.500	ug/L
Chloroform	0.500U	1.00	0.310	0.500	ug/L
Chloromethane	0.500U	1.00	0.310	0.500	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	0.250	ug/L
Dibromochloromethane	0.250U	0.500	0.150	0.250	ug/L

Method Blank

Blank ID: MB for HBN 1852748 [VXX/39698]
Blank Lab ID: 1707014

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046004

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromomethane	0.500U	1.00	0.310	0.500	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	0.500	ug/L
Ethylbenzene	0.500U	1.00	0.310	0.500	ug/L
Freon-113	5.00U	10.0	3.10	5.00	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	0.500	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	0.500	ug/L
Methylene chloride	5.00U	10.0	3.10	5.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	5.00	ug/L
Naphthalene	0.500U	1.00	0.310	0.500	ug/L
n-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
n-Propylbenzene	0.500U	1.00	0.310	0.500	ug/L
o-Xylene	0.500U	1.00	0.310	0.500	ug/L
P & M -Xylene	1.00U	2.00	0.620	1.00	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Styrene	0.500U	1.00	0.310	0.500	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Tetrachloroethene	0.500U	1.00	0.310	0.500	ug/L
Toluene	0.500U	1.00	0.310	0.500	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
Trichloroethene	0.250U	0.500	0.150	0.250	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	0.500	ug/L
Vinyl acetate	5.00U	10.0	3.10	5.00	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	0.0750	ug/L
Xylenes (total)	1.50U	3.00	1.00	1.50	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	81-118		0	%
4-Bromofluorobenzene (surr)	98.4	85-114		0	%
Toluene-d8 (surr)	95.3	89-112		0	%

Batch Information

Analytical Batch: VMS22301
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/21/2023 3:20:00PM

Prep Batch: VXX39698
Prep Method: SW5030B
Prep Date/Time: 3/21/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39698]
Blank Spike Lab ID: 1707015
Date Analyzed: 03/21/2023 15:34

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39698]
Spike Duplicate Lab ID: 1707016
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046004

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	34.1	114	30	32.9	110	(78-124)	3.60	(< 20)
1,1,1-Trichloroethane	30	32.2	107	30	30.3	101	(74-131)	6.00	(< 20)
1,1,2,2-Tetrachloroethane	30	32.8	109	30	32.5	108	(71-121)	0.77	(< 20)
1,1,2-Trichloroethane	30	32.9	110	30	32.7	109	(80-119)	0.71	(< 20)
1,1-Dichloroethane	30	32.1	107	30	30.4	101	(77-125)	5.20	(< 20)
1,1-Dichloroethene	30	29.6	99	30	27.1	90	(71-131)	8.90	(< 20)
1,1-Dichloropropene	30	28.3	95	30	26.7	89	(79-125)	6.10	(< 20)
1,2,3-Trichlorobenzene	30	33.2	111	30	33.3	111	(69-129)	0.42	(< 20)
1,2,3-Trichloropropane	30	32.6	109	30	32.7	109	(73-122)	0.49	(< 20)
1,2,4-Trichlorobenzene	30	32.9	110	30	32.9	110	(69-130)	0.23	(< 20)
1,2,4-Trimethylbenzene	30	28.9	97	30	28.0	93	(79-124)	3.20	(< 20)
1,2-Dibromo-3-chloropropane	30	32.0	107	30	31.9	106	(62-128)	0.15	(< 20)
1,2-Dibromoethane	30	33.9	113	30	33.8	113	(77-121)	0.34	(< 20)
1,2-Dichlorobenzene	30	31.2	104	30	30.5	102	(80-119)	2.40	(< 20)
1,2-Dichloroethane	30	32.8	109	30	32.5	108	(73-128)	0.93	(< 20)
1,2-Dichloropropane	30	34.5	115	30	33.6	112	(78-122)	2.60	(< 20)
1,3,5-Trimethylbenzene	30	28.7	96	30	27.3	91	(75-124)	5.00	(< 20)
1,3-Dichlorobenzene	30	31.5	105	30	30.4	101	(80-119)	3.40	(< 20)
1,3-Dichloropropane	30	34.1	114	30	33.3	111	(80-119)	2.20	(< 20)
1,4-Dichlorobenzene	30	31.5	105	30	31.0	103	(79-118)	1.80	(< 20)
2,2-Dichloropropane	30	32.3	108	30	30.4	101	(60-139)	6.00	(< 20)
2-Butanone (MEK)	90	110	122	90	109	122	(56-143)	0.39	(< 20)
2-Chlorotoluene	30	31.6	105	30	30.5	102	(79-122)	3.70	(< 20)
2-Hexanone	90	106	118	90	106	118	(57-139)	0.07	(< 20)
4-Chlorotoluene	30	32.0	107	30	31.0	103	(78-122)	3.30	(< 20)
4-Isopropyltoluene	30	28.2	94	30	26.5	88	(77-127)	6.10	(< 20)
4-Methyl-2-pentanone (MIBK)	90	113	125	90	113	126	(67-130)	0.41	(< 20)
Benzene	30	33.1	110	30	31.7	106	(79-120)	4.20	(< 20)
Bromobenzene	30	31.5	105	30	30.6	102	(80-120)	3.00	(< 20)
Bromochloromethane	30	33.3	111	30	32.7	109	(78-123)	1.90	(< 20)
Bromodichloromethane	30	34.7	116	30	33.9	113	(79-125)	2.30	(< 20)
Bromoform	30	35.4	118	30	35.1	117	(66-130)	0.85	(< 20)
Bromomethane	30	27.2	91	30	28.9	96	(53-141)	5.90	(< 20)
Carbon disulfide	45	41.7	93	45	38.4	85	(64-133)	8.40	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39698]
Blank Spike Lab ID: 1707015
Date Analyzed: 03/21/2023 15:34

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39698]
Spike Duplicate Lab ID: 1707016
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046004

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	31.2	104	30	29.1	97	(72-136)	6.90	(< 20)
Chlorobenzene	30	32.6	109	30	31.6	105	(82-118)	3.20	(< 20)
Chloroethane	30	30.1	100	30	27.5	92	(60-138)	8.80	(< 20)
Chloroform	30	32.1	107	30	30.8	103	(79-124)	4.10	(< 20)
Chloromethane	30	31.1	104	30	29.0	97	(50-139)	7.20	(< 20)
cis-1,2-Dichloroethene	30	32.1	107	30	31.9	106	(78-123)	0.57	(< 20)
cis-1,3-Dichloropropene	30	35.4	118	30	34.8	116	(75-124)	1.80	(< 20)
Dibromochloromethane	30	34.1	114	30	33.5	112	(74-126)	1.90	(< 20)
Dibromomethane	30	33.6	112	30	33.1	110	(79-123)	1.40	(< 20)
Dichlorodifluoromethane	30	25.1	84	30	22.7	76	(32-152)	10.00	(< 20)
Ethylbenzene	30	32.9	110	30	31.8	106	(79-121)	3.50	(< 20)
Freon-113	45	42.1	94	45	38.5	86	(70-136)	8.90	(< 20)
Hexachlorobutadiene	30	29.9	100	30	29.2	97	(66-134)	2.40	(< 20)
Isopropylbenzene (Cumene)	30	32.1	107	30	30.3	101	(72-131)	5.60	(< 20)
Methylene chloride	30	31.7	106	30	30.4	101	(74-124)	4.10	(< 20)
Methyl-t-butyl ether	45	55.3	123	45	54.5	121	(71-124)	1.50	(< 20)
Naphthalene	30	30.0	100	30	30.3	101	(61-128)	1.10	(< 20)
n-Butylbenzene	30	27.8	93	30	26.6	89	(75-128)	4.20	(< 20)
n-Propylbenzene	30	30.2	101	30	28.7	96	(76-126)	5.30	(< 20)
o-Xylene	30	33.3	111	30	32.4	108	(78-122)	2.80	(< 20)
P & M -Xylene	60	65.7	109	60	63.6	106	(80-121)	3.30	(< 20)
sec-Butylbenzene	30	27.6	92	30	26.1	87	(77-126)	5.40	(< 20)
Styrene	30	33.8	113	30	32.9	110	(78-123)	2.60	(< 20)
tert-Butylbenzene	30	27.9	93	30	26.5	88	(78-124)	5.40	(< 20)
Tetrachloroethene	30	30.4	101	30	28.7	96	(74-129)	5.70	(< 20)
Toluene	30	30.5	102	30	29.2	97	(80-121)	4.50	(< 20)
trans-1,2-Dichloroethene	30	31.5	105	30	29.5	98	(75-124)	6.60	(< 20)
trans-1,3-Dichloropropene	30	30.9	103	30	29.9	100	(73-127)	3.20	(< 20)
Trichloroethene	30	32.5	108	30	31.0	103	(79-123)	4.90	(< 20)
Trichlorofluoromethane	30	34.1	114	30	28.4	95	(65-141)	18.30	(< 20)
Vinyl acetate	30	35.4	118	30	34.8	116	(54-146)	1.60	(< 20)
Vinyl chloride	30	29.1	97	30	26.6	89	(58-137)	9.00	(< 20)
Xylenes (total)	90	99.0	110	90	96.0	107	(79-121)	3.10	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39698]
Blank Spike Lab ID: 1707015
Date Analyzed: 03/21/2023 15:34

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39698]
Spike Duplicate Lab ID: 1707016
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046004

Results by **SW8260D**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		102	30		104	(81-118)	2.00	
4-Bromofluorobenzene (surr)	30		100	30		99	(85-114)	0.38	
Toluene-d8 (surr)	30		99	30		98	(89-112)	0.84	

Batch Information

Analytical Batch: **VMS22301**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **PHK**

Prep Batch: **VXX39698**
Prep Method: **SW5030B**
Prep Date/Time: **03/21/2023 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1852797 [VXX/39701]
Blank Lab ID: 1707234

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	0.200	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	5.00	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	0.0375	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	0.250	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	0.250	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	0.250	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	5.00	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
2-Hexanone	5.00U	10.0	3.10	5.00	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	0.500	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	5.00	ug/L
Benzene	0.200U	0.400	0.120	0.200	ug/L
Bromobenzene	0.500U	1.00	0.310	0.500	ug/L
Bromochloromethane	0.500U	1.00	0.310	0.500	ug/L
Bromodichloromethane	0.250U	0.500	0.150	0.250	ug/L
Bromoform	0.500U	1.00	0.310	0.500	ug/L
Bromomethane	3.00U	6.00	3.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	5.00	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	0.500	ug/L
Chlorobenzene	0.250U	0.500	0.150	0.250	ug/L
Chloroethane	0.500U	1.00	0.310	0.500	ug/L
Chloroform	0.500U	1.00	0.310	0.500	ug/L
Chloromethane	0.500U	1.00	0.310	0.500	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	0.250	ug/L
Dibromochloromethane	0.250U	0.500	0.150	0.250	ug/L

Method Blank

Blank ID: MB for HBN 1852797 [VXX/39701]
Blank Lab ID: 1707234

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromomethane	0.500U	1.00	0.310	0.500	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	0.500	ug/L
Ethylbenzene	0.500U	1.00	0.310	0.500	ug/L
Freon-113	5.00U	10.0	3.10	5.00	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	0.500	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	0.500	ug/L
Methylene chloride	5.00U	10.0	3.10	5.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	5.00	ug/L
Naphthalene	0.500U	1.00	0.310	0.500	ug/L
n-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
n-Propylbenzene	0.500U	1.00	0.310	0.500	ug/L
o-Xylene	0.500U	1.00	0.310	0.500	ug/L
P & M -Xylene	1.00U	2.00	0.620	1.00	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Styrene	0.500U	1.00	0.310	0.500	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Tetrachloroethene	0.500U	1.00	0.310	0.500	ug/L
Toluene	0.500U	1.00	0.310	0.500	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
Trichloroethene	0.250U	0.500	0.150	0.250	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	0.500	ug/L
Vinyl acetate	5.00U	10.0	3.10	5.00	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	0.0750	ug/L
Xylenes (total)	1.50U	3.00	1.00	1.50	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	102	81-118		0	%
4-Bromofluorobenzene (surr)	101	85-114		0	%
Toluene-d8 (surr)	95	89-112		0	%

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/23/2023 2:26:00PM

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 3/23/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Anti-Foam Blank

Blank ID: AFB for HBN 1852797 [VXX/39701
Blank Lab ID: 1707237

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	0.250	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	0.200	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	5.00	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	0.0375	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	0.250	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	0.500	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	0.250	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	0.250	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	0.500	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	5.00	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
2-Hexanone	5.00U	10.0	3.10	5.00	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	0.500	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	0.500	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	5.00	ug/L
Benzene	0.200U	0.400	0.120	0.200	ug/L
Bromobenzene	0.500U	1.00	0.310	0.500	ug/L
Bromochloromethane	0.500U	1.00	0.310	0.500	ug/L
Bromodichloromethane	0.250U	0.500	0.150	0.250	ug/L
Bromoform	0.500U	1.00	0.310	0.500	ug/L
Bromomethane	3.00U	6.00	3.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	5.00	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	0.500	ug/L
Chlorobenzene	0.250U	0.500	0.150	0.250	ug/L
Chloroethane	0.500U	1.00	0.310	0.500	ug/L
Chloroform	0.500U	1.00	0.310	0.500	ug/L
Chloromethane	0.500U	1.00	0.310	0.500	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	0.250	ug/L
Dibromochloromethane	0.250U	0.500	0.150	0.250	ug/L

Anti-Foam Blank

Blank ID: AFB for HBN 1852797 [VXX/39701
Blank Lab ID: 1707237

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromomethane	0.500U	1.00	0.310	0.500	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	0.500	ug/L
Ethylbenzene	0.500U	1.00	0.310	0.500	ug/L
Freon-113	5.00U	10.0	3.10	5.00	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	0.500	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	0.500	ug/L
Methylene chloride	5.00U	10.0	3.10	5.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	5.00	ug/L
Naphthalene	0.500U	1.00	0.310	0.500	ug/L
n-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
n-Propylbenzene	0.500U	1.00	0.310	0.500	ug/L
o-Xylene	0.500U	1.00	0.310	0.500	ug/L
P & M -Xylene	1.00U	2.00	0.620	1.00	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Styrene	0.500U	1.00	0.310	0.500	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	0.500	ug/L
Tetrachloroethene	0.500U	1.00	0.310	0.500	ug/L
Toluene	0.500U	1.00	0.310	0.500	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	0.500	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	0.500	ug/L
Trichloroethene	0.250U	0.500	0.150	0.250	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	0.500	ug/L
Vinyl acetate	5.00U	10.0	3.10	5.00	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	0.0750	ug/L
Xylenes (total)	1.50U	3.00	1.00	1.50	ug/L

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/23/2023 6:48:00PM

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 3/23/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Leaching Blank

Blank ID: LB for HBN 1852466 [TCLP/12234
Blank Lab ID: 1706286

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1-Dichloroethene	25.0U	50.0	15.5	25.0	ug/L
1,2-Dichloroethane	12.5U	25.0	10.0	12.5	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	12.5	ug/L
2-Butanone (MEK)	250U	500	155	250	ug/L
Benzene	10.0U	20.0	6.00	10.0	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	25.0	ug/L
Chlorobenzene	12.5U	25.0	7.50	12.5	ug/L
Chloroform	25.0U	50.0	15.5	25.0	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	25.0	ug/L
Tetrachloroethene	25.0U	50.0	15.5	25.0	ug/L
Trichloroethene	12.5U	25.0	7.50	12.5	ug/L
Vinyl chloride	3.75U	7.50	2.50	3.75	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	102	81-118		0	%
4-Bromofluorobenzene (surr)	98.4	85-114		0	%
Toluene-d8 (surr)	95.1	89-112		0	%

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/23/2023 7:18:00PM

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 3/23/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Leaching Blank

Blank ID: LB for HBN 1852713 [TCLP/12250
Blank Lab ID: 1706852

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1-Dichloroethene	25.0U	50.0	15.5	25.0	ug/L
1,2-Dichloroethane	12.5U	25.0	10.0	12.5	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	12.5	ug/L
2-Butanone (MEK)	250U	500	155	250	ug/L
Benzene	10.0U	20.0	6.00	10.0	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	25.0	ug/L
Chlorobenzene	12.5U	25.0	7.50	12.5	ug/L
Chloroform	25.0U	50.0	15.5	25.0	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	25.0	ug/L
Tetrachloroethene	25.0U	50.0	15.5	25.0	ug/L
Trichloroethene	12.5U	25.0	7.50	12.5	ug/L
Vinyl chloride	3.75U	7.50	2.50	3.75	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	109	81-118		0	%
4-Bromofluorobenzene (surr)	96.3	85-114		0	%
Toluene-d8 (surr)	92.8	89-112		0	%

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/23/2023 7:47:00PM

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 3/23/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Member of SGS Group

Leaching Blank

Blank ID: LB for HBN 1852738 [TCLP/12251
Blank Lab ID: 1706977

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046002, 1231046003

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1-Dichloroethene	25.0U	50.0	15.5	25.0	ug/L
1,2-Dichloroethane	12.5U	25.0	10.0	12.5	ug/L
1,4-Dichlorobenzene	12.5U	25.0	7.50	12.5	ug/L
2-Butanone (MEK)	250U	500	155	250	ug/L
Benzene	10.0U	20.0	6.00	10.0	ug/L
Carbon tetrachloride	25.0U	50.0	15.5	25.0	ug/L
Chlorobenzene	12.5U	25.0	7.50	12.5	ug/L
Chloroform	25.0U	50.0	15.5	25.0	ug/L
Hexachlorobutadiene	25.0U	50.0	15.5	25.0	ug/L
Tetrachloroethene	25.0U	50.0	15.5	25.0	ug/L
Trichloroethene	12.5U	25.0	7.50	12.5	ug/L
Vinyl chloride	3.75U	7.50	2.50	3.75	ug/L
Surrogates					
1,2-Dichloroethane-D4 (surr)	108	81-118		0	%
4-Bromofluorobenzene (surr)	97.7	85-114		0	%
Toluene-d8 (surr)	94.4	89-112		0	%

Batch Information

Analytical Batch: VMS22302
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: PHK
Analytical Date/Time: 3/23/2023 7:32:00PM

Prep Batch: VXX39701
Prep Method: SW5030B
Prep Date/Time: 3/23/2023 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39701]
Blank Spike Lab ID: 1707235
Date Analyzed: 03/23/2023 14:41

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39701]
Spike Duplicate Lab ID: 1707236
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046002, 1231046003

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	30.0	100	30	29.7	99	(78-124)	0.87	(< 20)
1,1,1-Trichloroethane	30	32.9	110	30	33.5	112	(74-131)	1.50	(< 20)
1,1,2,2-Tetrachloroethane	30	29.9	100	30	30.1	100	(71-121)	0.57	(< 20)
1,1,2-Trichloroethane	30	28.9	96	30	28.4	95	(80-119)	1.60	(< 20)
1,1-Dichloroethane	30	31.2	104	30	31.3	104	(77-125)	0.35	(< 20)
1,1-Dichloroethene	30	34.4	115	30	34.3	114	(71-131)	0.06	(< 20)
1,1-Dichloropropene	30	30.0	100	30	30.5	102	(79-125)	1.40	(< 20)
1,2,3-Trichlorobenzene	30	29.9	100	30	30.7	102	(69-129)	2.60	(< 20)
1,2,3-Trichloropropane	30	29.4	98	30	29.3	98	(73-122)	0.06	(< 20)
1,2,4-Trichlorobenzene	30	31.2	104	30	32.0	107	(69-130)	2.50	(< 20)
1,2,4-Trimethylbenzene	30	28.9	96	30	29.6	99	(79-124)	2.40	(< 20)
1,2-Dibromo-3-chloropropane	30	29.1	97	30	29.1	97	(62-128)	0.05	(< 20)
1,2-Dibromoethane	30	29.5	98	30	29.4	98	(77-121)	0.49	(< 20)
1,2-Dichlorobenzene	30	29.1	97	30	29.4	98	(80-119)	0.85	(< 20)
1,2-Dichloroethane	30	29.1	97	30	29.0	97	(73-128)	0.24	(< 20)
1,2-Dichloropropane	30	31.6	105	30	31.4	105	(78-122)	0.63	(< 20)
1,3,5-Trimethylbenzene	30	28.7	96	30	29.4	98	(75-124)	2.50	(< 20)
1,3-Dichlorobenzene	30	30.2	101	30	30.9	103	(80-119)	2.50	(< 20)
1,3-Dichloropropane	30	29.7	99	30	29.3	98	(80-119)	1.10	(< 20)
1,4-Dichlorobenzene	30	30.0	100	30	30.4	101	(79-118)	1.30	(< 20)
2,2-Dichloropropane	30	33.2	111	30	33.5	112	(60-139)	1.20	(< 20)
2-Butanone (MEK)	90	93.8	104	90	92.9	103	(56-143)	0.96	(< 20)
2-Chlorotoluene	30	30.6	102	30	31.8	106	(79-122)	3.90	(< 20)
2-Hexanone	90	89.9	100	90	89.0	99	(57-139)	0.94	(< 20)
4-Chlorotoluene	30	31.1	104	30	32.1	107	(78-122)	3.30	(< 20)
4-Isopropyltoluene	30	28.8	96	30	29.7	99	(77-127)	2.80	(< 20)
4-Methyl-2-pentanone (MIBK)	90	96.7	107	90	94.8	105	(67-130)	2.10	(< 20)
Benzene	30	31.7	106	30	31.7	106	(79-120)	0.16	(< 20)
Bromobenzene	30	29.8	99	30	30.5	102	(80-120)	2.40	(< 20)
Bromochloromethane	30	29.9	100	30	29.9	100	(78-123)	0.10	(< 20)
Bromodichloromethane	30	31.1	104	30	31.1	104	(79-125)	0.10	(< 20)
Bromoform	30	29.9	100	30	29.2	97	(66-130)	2.50	(< 20)
Bromomethane	30	31.0	103	30	33.7	112	(53-141)	8.20	(< 20)
Carbon disulfide	45	47.3	105	45	47.3	105	(64-133)	0.03	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39701]
Blank Spike Lab ID: 1707235
Date Analyzed: 03/23/2023 14:41

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39701]
Spike Duplicate Lab ID: 1707236
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046002, 1231046003

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	33.1	110	30	33.4	111	(72-136)	0.91	(< 20)
Chlorobenzene	30	29.6	99	30	30.0	100	(82-118)	1.10	(< 20)
Chloroethane	30	29.4	98	30	28.6	96	(60-138)	2.50	(< 20)
Chloroform	30	29.7	99	30	29.8	99	(79-124)	0.48	(< 20)
Chloromethane	30	30.2	101	30	30.1	100	(50-139)	0.29	(< 20)
cis-1,2-Dichloroethene	30	30.9	103	30	30.1	100	(78-123)	2.30	(< 20)
cis-1,3-Dichloropropene	30	32.7	109	30	32.4	108	(75-124)	0.66	(< 20)
Dibromochloromethane	30	30.1	100	30	29.5	98	(74-126)	1.90	(< 20)
Dibromomethane	30	29.5	98	30	29.5	98	(79-123)	0.07	(< 20)
Dichlorodifluoromethane	30	26.5	88	30	26.7	89	(32-152)	0.82	(< 20)
Ethylbenzene	30	30.9	103	30	31.5	105	(79-121)	2.00	(< 20)
Freon-113	45	48.5	108	45	48.8	108	(70-136)	0.66	(< 20)
Hexachlorobutadiene	30	29.9	100	30	30.9	103	(66-134)	3.40	(< 20)
Isopropylbenzene (Cumene)	30	30.5	102	30	30.9	103	(72-131)	1.30	(< 20)
Methylene chloride	30	29.6	99	30	29.2	97	(74-124)	1.50	(< 20)
Methyl-t-butyl ether	45	49.4	110	45	48.2	107	(71-124)	2.60	(< 20)
Naphthalene	30	27.0	90	30	27.8	93	(61-128)	3.00	(< 20)
n-Butylbenzene	30	28.8	96	30	29.5	98	(75-128)	2.20	(< 20)
n-Propylbenzene	30	30.6	102	30	31.9	106	(76-126)	4.40	(< 20)
o-Xylene	30	31.7	106	30	32.0	107	(78-122)	1.10	(< 20)
P & M -Xylene	60	62.1	103	60	63.0	105	(80-121)	1.50	(< 20)
sec-Butylbenzene	30	28.3	95	30	29.5	98	(77-126)	3.90	(< 20)
Styrene	30	30.5	102	30	30.5	102	(78-123)	0.00	(< 20)
tert-Butylbenzene	30	28.8	96	30	30.0	100	(78-124)	4.00	(< 20)
Tetrachloroethene	30	30.3	101	30	30.8	103	(74-129)	1.80	(< 20)
Toluene	30	28.6	95	30	28.8	96	(80-121)	0.76	(< 20)
trans-1,2-Dichloroethene	30	32.3	108	30	32.1	107	(75-124)	0.41	(< 20)
trans-1,3-Dichloropropene	30	27.7	93	30	27.2	91	(73-127)	1.80	(< 20)
Trichloroethene	30	32.3	108	30	32.4	108	(79-123)	0.15	(< 20)
Trichlorofluoromethane	30	34.5	115	30	29.2	97	(65-141)	16.70	(< 20)
Vinyl acetate	30	31.4	105	30	30.4	101	(54-146)	3.20	(< 20)
Vinyl chloride	30	29.9	100	30	30.4	101	(58-137)	1.60	(< 20)
Xylenes (total)	90	93.7	104	90	95.0	106	(79-121)	1.40	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [VXX39701]
Blank Spike Lab ID: 1707235
Date Analyzed: 03/23/2023 14:41

Spike Duplicate ID: LCSD for HBN 1231046 [VXX39701]
Spike Duplicate Lab ID: 1707236
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046002, 1231046003

Results by **SW8260D**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		95	30		93	(81-118)	2.70	
4-Bromofluorobenzene (surr)	30		102	30		104	(85-114)	1.40	
Toluene-d8 (surr)	30		98	30		98	(89-112)	0.21	

Batch Information

Analytical Batch: **VMS22302**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **PHK**

Prep Batch: **VXX39701**
Prep Method: **SW5030B**
Prep Date/Time: **03/23/2023 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1852654 [XXX/47618]
Blank Lab ID: 1706607

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046002, 1231046003

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	LOD	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	0.0250	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	0.0250	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	0.0250	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	0.0250	ug/L
Anthracene	0.0250U	0.0500	0.0150	0.0250	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	0.0250	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	0.0100	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	0.0250	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	0.0250	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	0.0250	ug/L
Chrysene	0.0250U	0.0500	0.0150	0.0250	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	0.0100	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	0.0250	ug/L
Fluorene	0.0250U	0.0500	0.0150	0.0250	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	0.0250	ug/L
Naphthalene	0.0500U	0.100	0.0310	0.0500	ug/L
Phenanthrene	0.0500U	0.100	0.0310	0.0500	ug/L
Pyrene	0.0250U	0.0500	0.0150	0.0250	ug/L
Surrogates					
2-Methylnaphthalene-d10 (surr)	56.9	38-100		0	%
Fluoranthene-d10 (surr)	69	30-111		0	%

Batch Information

Analytical Batch: XMS13570
Analytical Method: 8270D SIM LV (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: NRB
Analytical Date/Time: 3/23/2023 5:31:00PM

Prep Batch: XXX47618
Prep Method: SW3535A
Prep Date/Time: 3/20/2023 1:50:58PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [XXX47618]
Blank Spike Lab ID: 1706608
Date Analyzed: 03/23/2023 17:52

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046002, 1231046003

Results by **8270D SIM LV (PAH)**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	2	1.38	69	(41-115)
2-Methylnaphthalene	2	1.35	67	(39-114)
Acenaphthene	2	1.43	71	(48-114)
Acenaphthylene	2	1.52	76	(35-121)
Anthracene	2	1.46	73	(53-119)
Benzo(a)Anthracene	2	1.48	74	(59-120)
Benzo[a]pyrene	2	1.63	82	(53-120)
Benzo[b]Fluoranthene	2	1.50	75	(53-126)
Benzo[g,h,i]perylene	2	1.83	91	(44-128)
Benzo[k]fluoranthene	2	1.66	83	(54-125)
Chrysene	2	1.55	77	(57-120)
Dibenzo[a,h]anthracene	2	1.83	92	(44-131)
Fluoranthene	2	1.55	78	(58-120)
Fluorene	2	1.49	75	(50-118)
Indeno[1,2,3-c,d] pyrene	2	1.75	87	(48-130)
Naphthalene	2	1.47	74	(43-114)
Phenanthrene	2	1.50	75	(53-115)
Pyrene	2	1.59	80	(53-121)
Surrogates				
2-Methylnaphthalene-d10 (surr)	2		63	(38-100)
Fluoranthene-d10 (surr)	2		79	(30-111)

Batch Information

Analytical Batch: **XMS13570**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **NRB**

Prep Batch: **XXX47618**
Prep Method: **SW3535A**
Prep Date/Time: **03/20/2023 13:50**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 03/31/2023 1:04:59PM

Matrix Spike Summary

Original Sample ID: 1231045001
MS Sample ID: 1706609 MS
MSD Sample ID: 1706610 MSD

Analysis Date: 03/23/2023 19:14
Analysis Date: 03/23/2023 19:34
Analysis Date: 03/23/2023 19:54
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046002, 1231046003

Results by **8270D SIM LV (PAH)**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Acenaphthene	0.0510U	2.04	1.21	59	2.08	1.20	58	48-114	0.79	(< 20)
Acenaphthylene	0.267	2.04	1.67	69	2.08	1.70	69	35-121	2.10	(< 20)
Anthracene	0.0510U	2.04	1.48	72	2.08	1.36	65	53-119	8.70	(< 20)
Benzo(a)Anthracene	0.0510U	2.04	1.78	87	2.08	1.75	84	59-120	1.50	(< 20)
Benzo[a]pyrene	0.0204U	2.04	1.83	90	2.08	1.83	88	53-120	0.12	(< 20)
Benzo[b]Fluoranthene	0.0510U	2.04	1.85	91	2.08	1.88	90	53-126	1.60	(< 20)
Benzo[g,h,i]perylene	0.0510U	2.04	1.85	91	2.08	1.86	89	44-128	0.25	(< 20)
Benzo[k]fluoranthene	0.0510U	2.04	1.86	91	2.08	1.84	88	54-125	1.10	(< 20)
Chrysene	0.0510U	2.04	1.79	88	2.08	1.74	84	57-120	2.90	(< 20)
Dibenzo[a,h]anthracene	0.0204U	2.04	1.9	93	2.08	1.89	91	44-131	0.49	(< 20)
Fluoranthene	0.0510U	2.04	1.7	83	2.08	1.63	78	58-120	4.40	(< 20)
Fluorene	0.133	2.04	1.53	69	2.08	1.44	63	50-118	6.40	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0510U	2.04	1.87	91	2.08	1.87	90	48-130	0.48	(< 20)
Naphthalene	0.102U	2.04	1.43	70	2.08	1.44	69	43-114	0.35	(< 20)
Phenanthrene	0.228	2.04	1.8	77	2.08	1.68	70	53-115	6.70	(< 20)
Pyrene	0.0510U	2.04	1.73	85	2.08	1.65	79	53-121	4.80	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		2.04	1.09	53	2.08	1.05	50	38-100	4.00	
Fluoranthene-d10 (surr)		2.04	1.74	85	2.08	1.64	79	30-111	6.00	

Batch Information

Analytical Batch: XMS13570
Analytical Method: 8270D SIM LV (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: NRB
Analytical Date/Time: 3/23/2023 7:34:00PM

Prep Batch: XXX47618
Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV
Prep Date/Time: 3/20/2023 1:50:58PM
Prep Initial Wt./Vol.: 245.00mL
Prep Extract Vol: 1.00mL

Print Date: 03/31/2023 1:05:01PM

Method Blank

Blank ID: MB for HBN 1852732 [XXX/47628]
Blank Lab ID: 1706959

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046002, 1231046003

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	0.491J	0.600	0.200	0.300	mg/L
Surrogates					
5a Androstane (surr)	79.8	60-120		0	%

Batch Information

Analytical Batch: XFC16475
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: T.L
Analytical Date/Time: 3/29/2023 9:50:00AM

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 3/22/2023 4:41:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 03/31/2023 1:05:02PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [XXX47628]
Blank Spike Lab ID: 1706960
Date Analyzed: 03/23/2023 19:04

Spike Duplicate ID: LCSD for HBN 1231046 [XXX47628]
Spike Duplicate Lab ID: 1706961
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046002, 1231046003

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	15.6	78	20	16.3	82	(75-125)	4.70	(< 20)
Surrogates									
5a Androstane (surr)	0.4		91	0.4		94	(60-120)	3.90	

Batch Information

Analytical Batch: **XFC16472**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **T.L**

Prep Batch: **XXX47628**
Prep Method: **SW3520C**
Prep Date/Time: **03/22/2023 16:41**
Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1852732 [XXX/47628]
Blank Lab ID: 1706959

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1231046001, 1231046002, 1231046003

Results by **AK103**

Parameter	Results	LOQ/CL	DL	LOD	Units
Residual Range Organics	0.284J	0.500	0.200	0.250	mg/L
Surrogates					
n-Triacontane-d62 (surr)	90.6	60-120		0	%

Batch Information

Analytical Batch: XFC16475
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: T.L
Analytical Date/Time: 3/29/2023 9:50:00AM

Prep Batch: XXX47628
Prep Method: SW3520C
Prep Date/Time: 3/22/2023 4:41:00PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 03/31/2023 1:05:07PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1231046 [XXX47628]
Blank Spike Lab ID: 1706960
Date Analyzed: 03/23/2023 19:04

Spike Duplicate ID: LCSD for HBN 1231046 [XXX47628]
Spike Duplicate Lab ID: 1706961
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1231046001, 1231046002, 1231046003

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	16.3	82	20	16.6	83	(60-120)	1.90	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4		90	0.4		90	(60-120)	0.13	

Batch Information

Analytical Batch: **XFC16472**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **T.L**

Prep Batch: **XXX47628**
Prep Method: **SW3520C**
Prep Date/Time: **03/22/2023 16:41**
Spike Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 0.4 mg/L Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

1231046

Shannon & Wilson, Inc.
5430 Fairbanks Street, Suite 3
Anchorage, Alaska 99518
(907) 561-2120
Fax (206) 695-6777

SGS North America Inc.

Date	Time	Sample ID	Total Containers	GRO- AK 101	DRO/RRO- AK 102/ AK 103	VOCs- EPA 8260D	PAHs- EPA Method 8270D SIM				
				HCl	HCl	HCl	4C				
3/16/23	10:32	108906 - B1MW (1) AJ	10	X	X	X	X				
3/17/23	13:30	108906 - B2MW (2) AJ	10	X	X	X	X				
3/17/23	14:00	108906 - B12MW (3) AJ	10	X	X	X	X				
3/16/23	9:00	108906 - WTB (4) AF	2 sets	X		X					

Relinquished By:	Relinquished By:	Project Information
Signature:	Signature:	Project Number: 108906-002
Print Name: Alec Rizzo	Print Name:	Project Name: ANC Fire Training Pit
Company: Shannon & Wilson, Inc.	Company:	Contact: Dan McMahon/ Alec Rizzo
Date: 3/17/23	Date:	Sampler: AJR
Time: 1515	Time:	Special Instructions:
Received By:	**Received By:**	**Sample Receipt**
Signature:	Signature: Alexandra Carnes	Shipped Via: Hand Delivered
Print Name:	Print Name:	
Company:	Company: SGS	Cooler Temperature Upon Arrival: 1.8 003
Date:	Date: 3/17/23	Sample Matrix: Groundwater
Time:	Time: 1523	**10 Working DAY TAT**

Profile # 305350 DAR

SGS

1231046

SAMPLE RECEIPT FORM

Project Manager Completion				
Was all necessary information recorded on the COC upon receipt? (temperature, COC seals, etc.?)	Yes	No	N/A	
Was temperature between 0-6° C?	Yes	No	N/A	If "No", are the samples either exempt* or sampled <8 hours prior to receipt?
Were all analyses received within holding time*?	Yes	No	N/A	
Was a method specified for each analysis, where applicable? If no, please note correct methods.	Yes	No	N/A	
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	Yes	No	N/A	
If rush was requested by the client, was the requested TAT approved?	Yes	No	N/A	If "NO", what is the approved TAT?
If SEDD Deliverables are required, were Location ID's and an NPDL Number provided?	Yes	No	N/A	*If "NO", contact client for information.*
Sample Login Completion				
Do ID's on sample containers match COC?	Yes	No	N/A	
If provided on containers, do dates/times collected match COC?	Yes	No	N/A	Note: If times differ <1 hr., record details below and login per COC.
Were all sample containers received in good condition?	Yes	No	N/A	
Were proper containers (type/mass/volume/preservative) received for all samples? **See form F-083 "Sample Guide"*	Yes	No	N/A	*Note: If 200.8/6020 Total Metals are received unpreserved, preserve and note HNO3 lot here:* *If 200.8/6020 Dissolved Metals are received unpreserved, log in for LABFILTER and do not preserve.* *For all non-metals methods, inform Project Manager.*
Were Trip Blanks (VOC, GRO, Low-Level Hg, etc.) received with samples, where applicable*?	Yes	No	N/A	
Were all VOA vials free of headspace >6mm?	Yes	No	N/A	
Were all soil VOA samples received field extracted with Methanol?	Yes	No	N/A	
Did all soil VOA samples have an accompanying unpreserved container for % solids?	Yes	No	N/A	
If special handling is required, were containers labelled appropriately? e.g. MI/ISM, foreign soils, lab filter, Ref Lab, limited volume	Yes	No	N/A	
For Rush/Short Holding time, was the lab notified?	Yes	No	N/A	
For any question answered "NO", was the Project Manager notified?	Yes	No	N/A	PM Initials:
Was Peer Review of sample numbering/labelling completed?	Yes	No	N/A	Reviewer Initials: LW 3-17-23

Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1231046001-A	HCL to pH < 2	OK			
1231046001-B	HCL to pH < 2	OK			
1231046001-C	HCL to pH < 2	OK			
1231046001-D	HCL to pH < 2	OK			
1231046001-E	HCL to pH < 2	OK			
1231046001-F	HCL to pH < 2	OK			
1231046001-G	HCL to pH < 2	OK			
1231046001-H	HCL to pH < 2	OK			
1231046001-I	No Preservative Required	OK			
1231046001-J	No Preservative Required	OK			
1231046002-A	HCL to pH < 2	OK			
1231046002-B	HCL to pH < 2	OK			
1231046002-C	HCL to pH < 2	OK			
1231046002-D	HCL to pH < 2	OK			
1231046002-E	HCL to pH < 2	OK			
1231046002-F	HCL to pH < 2	OK			
1231046002-G	HCL to pH < 2	OK			
1231046002-H	HCL to pH < 2	OK			
1231046002-I	No Preservative Required	OK			
1231046002-J	No Preservative Required	OK			
1231046003-A	HCL to pH < 2	OK			
1231046003-B	HCL to pH < 2	OK			
1231046003-C	HCL to pH < 2	OK			
1231046003-D	HCL to pH < 2	OK			
1231046003-E	HCL to pH < 2	OK			
1231046003-F	HCL to pH < 2	OK			
1231046003-G	HCL to pH < 2	OK			
1231046003-H	HCL to pH < 2	OK			
1231046003-I	No Preservative Required	OK			
1231046003-J	No Preservative Required	OK			
1231046004-A	HCL to pH < 2	OK			
1231046004-B	HCL to pH < 2	OK			
1231046004-C	HCL to pH < 2	OK			
1231046004-D	HCL to pH < 2	OK			
1231046004-E	HCL to pH < 2	OK			
1231046004-F	HCL to pH < 2	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	SGS
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	1231046
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	3/31/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 1.8° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *Data quality/usability considered unaffected; see above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
- *MB- AK 102- DRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.*
- *MB- AK 103- RRO is detect in the MB greater than one-half the LOQ, but less than the LOQ.*

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: *The LOQ for 1,2,3-trichloropropane is greater than the ADEC cleanup level.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *There is a potential that the target analyte is present at concentrations in the associated samples greater than the ADEC cleanup level, but less than the LOQ.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: Although less than the LOQs, estimated concentrations of DRO (0.491 J µg/L) and RRO (0.284 J µg/L) were detected in the method blanks.*

iii. If above LoQ or RL, what samples are affected?
Comments: *All project samples apart from Sample WTB are potentially affected.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *Although less than the LOQ, samples are flagged "B" in Table 3 when the reported sample concentration is within 10x the reported method blank concentration. The concentrations of DRO and RRO detected in all project samples are greater than the LOQ but less than 5 times the blank concentration. Therefore, the results are flagged "B" and reported at the detected concentration in Table 4.*

v. Data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: .

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐

Comments: *Sample B12MW (duplicate of Sample B2MW) was included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *The RPDs for multiple analytes are outside QC criteria of 30% for groundwater. The affected concentrations are flagged "E" in Table 4.*

iv. Is the data quality or usability affected? (Explain)
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: *A decontamination or equipment blank were not included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Alec Rizzo
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

Generated 4/24/2023 3:08:32 PM

JOB DESCRIPTION

NAC Fire Training Pit

JOB NUMBER

320-97978-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

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

Authorization

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Authorized for release by
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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
H	Sample was prepped or analyzed beyond the specified holding time
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
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: 320-97978-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-97978-1

Receipt
The samples were received on 3/21/2023 2:59 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0º C.

LCMS
Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: (320-97977-A-7-A), (320-97977-A-7-B MS) and (320-97977-A-7-C MSD). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method EPA 537(Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-662576 and analytical batch 320-663052 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method EPA 537(Mod): Results for samples 108906-B1MW (320-97978-1) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method EPA 537(Mod): The following samples exhibited matrix interferences for Perfluoroheptanoic acid (PFHpA) causing elevation of the reporting limit: 108906-B1MW (320-97978-1). The reporting limit for the affected analyte has been raised to be equal to the matrix, and a "G" qualifier applied.

Method EPA 537(Mod): The following samples were extracted from a over diliuted sample aliquote. Samples were re-extracted outside of the holding time at larger sample volume and both sets of data have been reported. 108906-B2MW (320-97978-4) and 108906-B12MW (320-97978-5).

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

Organic Prep
Method 3535: Due to the screen results, the initial volumes used for the following samples deviated from the standard procedure: 108906-B1MW (320-97978-1). A 50x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately.
preparation batch 320-662576

Method 3535: The following samples were re-prepared outside of preparation holding time due to over-dilution: 108906-B2MW (320-97978-4) and 108906-B12MW (320-97978-5).
preparation batch 320-668941

Method 3535: The following samples contained a thin layer of sediment at the bottom of the bottle prior to extraction: 108906-B2MW (320-97978-4) and 108906-B12MW (320-97978-5).
preparation batch 320-668941

Method 3535: During the solid-phase extraction process, the following samples contained non-settable particulates which clogged the solid-phase extraction column: 108906-B2MW (320-97978-4) and 108906-B12MW (320-97978-5) .
preparation batch 320-668941

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-B1MW — Lab Sample ID: 320-97978-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	5100		100	43	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5000		100	10	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4500		100	29	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1200		100	27	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	33000		500	150	ng/L	5		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-FB — Lab Sample ID: 320-97978-2

No Detections.

Client Sample ID: 108906-EB — Lab Sample ID: 320-97978-3

No Detections.

Client Sample ID: 108906-B2MW — Lab Sample ID: 320-97978-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	61	J	100	29	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	50	J	100	43	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	41	J	100	29	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	64	J	100	27	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - RE	60	H I	1.8	0.53	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - RE	3.0	H	1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - RE	36	H	1.8	0.78	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA) - RE	0.52	J H	1.8	0.25	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA) - RE	0.28	J H	1.8	0.28	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RE	14	H	1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RE	33	H	1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	64	H	1.8	0.49	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B12MW — Lab Sample ID: 320-97978-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	58	J	100	29	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	47	J	100	43	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	41	J	100	29	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	69	J	100	27	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - RE	65	H I	1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - RE	2.9	H	1.8	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - RE	43	H	1.8	0.76	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA) - RE	0.50	J H	1.8	0.24	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA) - RE	0.32	J H	1.8	0.28	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RE	13	H	1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RE	39	H	1.8	0.51	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	72	H	1.8	0.48	ng/L	1		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-B1MW

Date Collected: 03/16/23 10:32
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-1

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND	G	110	110	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorooctanoic acid (PFOA)	**5100**		100	43	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorononanoic acid (PFNA)	ND		100	14	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorodecanoic acid (PFDA)	ND		100	16	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluoroundecanoic acid (PFUnA)	ND		100	55	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorododecanoic acid (PFDoA)	ND		100	28	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorotridecanoic acid (PFTriA)	ND		100	65	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorotetradecanoic acid (PFTeA)	ND		100	37	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorobutanesulfonic acid (PFBS)	**5000**		100	10	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorohexanesulfonic acid (PFHxS)	**4500**		100	29	ng/L		03/22/23 11:44	03/24/23 01:49	1
Perfluorooctanesulfonic acid (PFOS)	**1200**		100	27	ng/L		03/22/23 11:44	03/24/23 01:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		250	60	ng/L		03/22/23 11:44	03/24/23 01:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		250	65	ng/L		03/22/23 11:44	03/24/23 01:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		100	12	ng/L		03/22/23 11:44	03/24/23 01:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		200	75	ng/L		03/22/23 11:44	03/24/23 01:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		100	16	ng/L		03/22/23 11:44	03/24/23 01:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		100	20	ng/L		03/22/23 11:44	03/24/23 01:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C4 PFHpA	*105*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C4 PFOA	*102*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C5 PFNA	*104*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C2 PFDA	*100*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C2 PFUnA	*93*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C2 PFTeDA	*78*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C3 PFBS	*89*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
18O2 PFHxS	*96*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C4 PFOS	*106*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
d3-NMeFOSAA	*99*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
d5-NEtFOSAA	*103*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:49*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**33000**		500	150	ng/L		03/22/23 11:44	03/29/23 23:50	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*98*		*50 - 150*	*03/22/23 11:44*	*03/29/23 23:50*	*5*

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-FB
Date Collected: 03/16/23 11:15
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-2
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.22	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.73	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.49	ng/L		03/22/23 11:44	03/24/23 01:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.47	ng/L		03/22/23 11:44	03/24/23 01:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.0	ng/L		03/22/23 11:44	03/24/23 01:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.1	ng/L		03/22/23 11:44	03/24/23 01:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.21	ng/L		03/22/23 11:44	03/24/23 01:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		03/22/23 11:44	03/24/23 01:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.28	ng/L		03/22/23 11:44	03/24/23 01:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		03/22/23 11:44	03/24/23 01:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C4 PFHpA	*118*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C4 PFOA	*105*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C5 PFNA	*101*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C2 PFDA	*102*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C2 PFUnA	*94*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C2 PFDoA	*101*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C3 PFBS	*100*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
18O2 PFHxS	*103*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C4 PFOS	*113*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
d3-NMeFOSAA	*110*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*
13C3 HFPO-DA	*97*		*50 - 150*	*03/22/23 11:44*	*03/24/23 01:59*	*1*

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-EB
Date Collected: 03/16/23 11:40
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-3
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.73	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.49	ng/L		03/22/23 11:44	03/24/23 02:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		03/22/23 11:44	03/24/23 02:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.0	ng/L		03/22/23 11:44	03/24/23 02:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.1	ng/L		03/22/23 11:44	03/24/23 02:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.21	ng/L		03/22/23 11:44	03/24/23 02:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		03/22/23 11:44	03/24/23 02:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		03/22/23 11:44	03/24/23 02:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		03/22/23 11:44	03/24/23 02:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*95*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C4 PFHpA	*96*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C4 PFOA	*100*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C5 PFNA	*96*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C2 PFDA	*96*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C2 PFUnA	*88*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C2 PFDoA	*97*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C3 PFBS	*94*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
18O2 PFHxS	*91*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C4 PFOS	*99*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
d3-NMeFOSAA	*105*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
d5-NEtFOSAA	*110*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*
13C3 HFPO-DA	*88*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:09*	*1*

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-B2MW
Date Collected: 03/17/23 13:30
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-4
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**61**	**J**	100	29	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluoroheptanoic acid (PFHpA)	ND		100	13	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorooctanoic acid (PFOA)	**50**	**J**	100	43	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorononanoic acid (PFNA)	ND		100	14	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorodecanoic acid (PFDA)	ND		100	16	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluoroundecanoic acid (PFUnA)	ND		100	55	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorododecanoic acid (PFDoA)	ND		100	28	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorotridecanoic acid (PFTriA)	ND		100	65	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		100	37	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		100	10	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorohexanesulfonic acid (PFHxS)	**41**	**J**	100	29	ng/L		03/22/23 11:44	03/24/23 02:19	1
Perfluorooctanesulfonic acid (PFOS)	**64**	**J**	100	27	ng/L		03/22/23 11:44	03/24/23 02:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		250	60	ng/L		03/22/23 11:44	03/24/23 02:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		250	65	ng/L		03/22/23 11:44	03/24/23 02:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		100	12	ng/L		03/22/23 11:44	03/24/23 02:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		200	75	ng/L		03/22/23 11:44	03/24/23 02:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		100	16	ng/L		03/22/23 11:44	03/24/23 02:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		100	20	ng/L		03/22/23 11:44	03/24/23 02:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C4 PFHpA	*95*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C4 PFOA	*95*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C5 PFNA	*92*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C2 PFDA	*102*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C2 PFUnA	*83*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C2 PFDoA	*87*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C2 PFTeDA	*78*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C3 PFBS	*98*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
18O2 PFHxS	*93*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C4 PFOS	*98*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
d5-NEtFOSAA	*99*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*
13C3 HFPO-DA	*88*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:19*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**60**	**H I**	1.8	0.53	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluoroheptanoic acid (PFHpA)	**3.0**	**H**	1.8	0.23	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorooctanoic acid (PFOA)	**36**	**H**	1.8	0.78	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorononanoic acid (PFNA)	**0.52**	**J H**	1.8	0.25	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorodecanoic acid (PFDA)	**0.28**	**J H**	1.8	0.28	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluoroundecanoic acid (PFUnA)	ND	H	1.8	1.0	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorododecanoic acid (PFDoA)	ND	H	1.8	0.50	ng/L		04/20/23 12:07	04/21/23 13:01	1

Client Sample ID: 108906-B2MW
Date Collected: 03/17/23 13:30
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-4
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTriA)	ND	H	1.8	1.2	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorotetradecanoic acid (PFTeA)	ND	H	1.8	0.67	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorobutanesulfonic acid (PFBS)	**14**	**H**	1.8	0.18	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorohexanesulfonic acid (PFHxS)	**33**	**H**	1.8	0.52	ng/L		04/20/23 12:07	04/21/23 13:01	1
Perfluorooctanesulfonic acid (PFOS)	**64**	**H**	1.8	0.49	ng/L		04/20/23 12:07	04/21/23 13:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	4.6	1.1	ng/L		04/20/23 12:07	04/21/23 13:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	4.6	1.2	ng/L		04/20/23 12:07	04/21/23 13:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND	H	1.8	0.22	ng/L		04/20/23 12:07	04/21/23 13:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	H	3.7	1.4	ng/L		04/20/23 12:07	04/21/23 13:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND	H	1.8	0.29	ng/L		04/20/23 12:07	04/21/23 13:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	H	1.8	0.37	ng/L		04/20/23 12:07	04/21/23 13:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*71*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C4 PFHpA	*64*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C4 PFOA	*69*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C5 PFNA	*66*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C2 PFDA	*60*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C2 PFUnA	*52*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C2 PFDoA	*45*	**5-*	*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C2 PFTeDA	*43*	**5-*	*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C3 PFBS	*70*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
18O2 PFHxS	*59*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C4 PFOS	*63*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
d3-NMeFOSAA	*52*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
d5-NEtFOSAA	*50*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*
13C3 HFPO-DA	*74*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:01*	*1*

Client Sample ID: 108906-B12MW
Date Collected: 03/17/23 14:00
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-5
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**58**	**J**	100	29	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluoroheptanoic acid (PFHpA)	ND		100	13	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorooctanoic acid (PFOA)	**47**	**J**	100	43	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorononanoic acid (PFNA)	ND		100	14	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorodecanoic acid (PFDA)	ND		100	16	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluoroundecanoic acid (PFUnA)	ND		100	55	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorododecanoic acid (PFDoA)	ND		100	28	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorotridecanoic acid (PFTriA)	ND		100	65	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		100	37	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		100	10	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorohexanesulfonic acid (PFHxS)	**41**	**J**	100	29	ng/L		03/22/23 11:44	03/24/23 02:30	1
Perfluorooctanesulfonic acid (PFOS)	**69**	**J**	100	27	ng/L		03/22/23 11:44	03/24/23 02:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		250	60	ng/L		03/22/23 11:44	03/24/23 02:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		250	65	ng/L		03/22/23 11:44	03/24/23 02:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		100	12	ng/L		03/22/23 11:44	03/24/23 02:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		200	75	ng/L		03/22/23 11:44	03/24/23 02:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		100	16	ng/L		03/22/23 11:44	03/24/23 02:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		100	20	ng/L		03/22/23 11:44	03/24/23 02:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C4 PFHpA	*102*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C4 PFOA	*103*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C5 PFNA	*98*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C2 PFDA	*96*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C2 PFUnA	*94*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C2 PFDoA	*94*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C3 PFBS	*98*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
18O2 PFHxS	*101*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C4 PFOS	*105*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
d3-NMeFOSAA	*98*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
d5-NEtFOSAA	*107*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*03/22/23 11:44*	*03/24/23 02:30*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**65**	**H I**	1.8	0.52	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluoroheptanoic acid (PFHpA)	**2.9**	**H**	1.8	0.22	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorooctanoic acid (PFOA)	**43**	**H**	1.8	0.76	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorononanoic acid (PFNA)	**0.50**	**J H**	1.8	0.24	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorodecanoic acid (PFDA)	**0.32**	**J H**	1.8	0.28	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluoroundecanoic acid (PFUnA)	ND	H	1.8	0.99	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorododecanoic acid (PFDoA)	ND	H	1.8	0.49	ng/L		04/20/23 12:07	04/21/23 13:11	1

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-B12MW
Date Collected: 03/17/23 14:00
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-5
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTriA)	ND	H	1.8	1.2	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorotetradecanoic acid (PFTeA)	ND	H	1.8	0.66	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorobutanesulfonic acid (PFBS)	**13**	**H**	1.8	0.18	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorohexanesulfonic acid (PFHxS)	**39**	**H**	1.8	0.51	ng/L		04/20/23 12:07	04/21/23 13:11	1
Perfluorooctanesulfonic acid (PFOS)	**72**	**H**	1.8	0.48	ng/L		04/20/23 12:07	04/21/23 13:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	4.5	1.1	ng/L		04/20/23 12:07	04/21/23 13:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	4.5	1.2	ng/L		04/20/23 12:07	04/21/23 13:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND	H	1.8	0.22	ng/L		04/20/23 12:07	04/21/23 13:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	H	3.6	1.3	ng/L		04/20/23 12:07	04/21/23 13:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND	H	1.8	0.29	ng/L		04/20/23 12:07	04/21/23 13:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	H	1.8	0.36	ng/L		04/20/23 12:07	04/21/23 13:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*64*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C4 PFHpA	*78*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C4 PFOA	*67*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C5 PFNA	*65*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C2 PFDA	*64*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C2 PFUnA	*58*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C2 PFDoA	*43*	**5-*	*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C2 PFTeDA	*42*	**5-*	*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C3 PFBS	*76*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
18O2 PFHxS	*54*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C4 PFOS	*62*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
d3-NMeFOSAA	*56*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
d5-NEtFOSAA	*55*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*
13C3 HFPO-DA	*71*		*50 - 150*	*04/20/23 12:07*	*04/21/23 13:11*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-97977-A-7-B MS	Matrix Spike	74	75	73	67	70	66	66	49 *5-
320-97977-A-7-C MSD	Matrix Spike Duplicate	61	57	64	57	60	59	54	40 *5-
320-97978-1	108906-B1MW	93	105	102	104	100	93	95	78
320-97978-1 - DL	108906-B1MW	98							
320-97978-2	108906-FB	103	118	105	101	102	94	101	89
320-97978-3	108906-EB	95	96	100	96	96	88	97	80
320-97978-4	108906-B2MW	90	95	95	92	102	83	87	78
320-97978-4 - RE	108906-B2MW	71	64	69	66	60	52	45 *5-	43 *5-
320-97978-5	108906-B12MW	105	102	103	98	96	94	94	84
320-97978-5 - RE	108906-B12MW	64	78	67	65	64	58	43 *5-	42 *5-
LCS 320-662576/2-A	Lab Control Sample	114	111	105	111	104	106	101	77
LCS 320-668941/2-A	Lab Control Sample	109	122	111	98	108	96	98	101
LCSD 320-662576/3-A	Lab Control Sample Dup	92	100	102	101	95	95	90	80
LCSD 320-668941/3-A	Lab Control Sample Dup	111	117	99	92	89	88	92	99
MB 320-662576/1-A	Method Blank	106	112	106	110	108	95	95	76
MB 320-668941/1-A	Method Blank	111	124	109	100	99	106	100	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-97977-A-7-B MS	Matrix Spike	61	67	67	69	74	69		
320-97977-A-7-C MSD	Matrix Spike Duplicate	54	61	61	61	67	59		
320-97978-1	108906-B1MW	89	96	106	99	103	93		
320-97978-1 - DL	108906-B1MW								
320-97978-2	108906-FB	100	103	113	110	111	97		
320-97978-3	108906-EB	94	91	99	105	110	88		
320-97978-4	108906-B2MW	98	93	98	92	99	88		
320-97978-4 - RE	108906-B2MW	70	59	63	52	50	74		
320-97978-5	108906-B12MW	98	101	105	98	107	92		
320-97978-5 - RE	108906-B12MW	76	54	62	56	55	71		
LCS 320-662576/2-A	Lab Control Sample	95	97	111	110	104	101		
LCS 320-668941/2-A	Lab Control Sample	118	95	96	103	109	102		
LCSD 320-662576/3-A	Lab Control Sample Dup	93	92	102	97	94	88		
LCSD 320-668941/3-A	Lab Control Sample Dup	103	89	92	94	95	97		
MB 320-662576/1-A	Method Blank	106	99	107	108	103	100		
MB 320-668941/1-A	Method Blank	107	97	104	108	114	103		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-662576/1-A
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 662576

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		03/22/23 11:44	03/23/23 23:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		03/22/23 11:44	03/23/23 23:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		03/22/23 11:44	03/23/23 23:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		03/22/23 11:44	03/23/23 23:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		03/22/23 11:44	03/23/23 23:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		03/22/23 11:44	03/23/23 23:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		03/22/23 11:44	03/23/23 23:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		03/22/23 11:44	03/23/23 23:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C4 PFHpA	*112*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C4 PFOA	*106*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C5 PFNA	*110*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C2 PFDA	*108*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C2 PFUnA	*95*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C2 PFTeDA	*76*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C3 PFBS	*106*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
18O2 PFHxS	*99*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C4 PFOS	*107*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
d3-NMeFOSAA	*108*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
d5-NEtFOSAA	*103*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*
13C3 HFPO-DA	*100*		*50 - 150*	*03/22/23 11:44*	*03/23/23 23:15*	*1*

Lab Sample ID: LCS 320-662576/2-A
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	39.1		ng/L		98	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	42.7		ng/L		107	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	43.9		ng/L		110	71 - 133
Perfluorononanoic acid (PFNA)	40.0	42.2		ng/L		105	69 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-662576/2-A
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	40.0	48.0		ng/L		120	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	42.8		ng/L		107	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	40.9		ng/L		102	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	37.0		ng/L		93	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	39.9		ng/L		100	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	43.4		ng/L		122	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	40.6		ng/L		111	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	40.0		ng/L		108	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	42.8		ng/L		107	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.8		ng/L		102	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	38.3		ng/L		102	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	41.9		ng/L		105	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	33.6		ng/L		89	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.9		ng/L		116	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*114*		*50 - 150*
13C4 PFHpA	*111*		*50 - 150*
13C4 PFOA	*105*		*50 - 150*
13C5 PFNA	*111*		*50 - 150*
13C2 PFDA	*104*		*50 - 150*
13C2 PFUnA	*106*		*50 - 150*
13C2 PFDoA	*101*		*50 - 150*
13C2 PFTeDA	*77*		*50 - 150*
13C3 PFBS	*95*		*50 - 150*
18O2 PFHxS	*97*		*50 - 150*
13C4 PFOS	*111*		*50 - 150*
d3-NMeFOSAA	*110*		*50 - 150*
d5-NEtFOSAA	*104*		*50 - 150*
13C3 HFPO-DA	*101*		*50 - 150*

Lab Sample ID: LCSD 320-662576/3-A
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	42.9		ng/L		107	72 - 129	9	30
Perfluoroheptanoic acid (PFHpA)	40.0	43.5		ng/L		109	72 - 130	2	30
Perfluorooctanoic acid (PFOA)	40.0	40.1		ng/L		100	71 - 133	9	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-662576/3-A
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 662576

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			40.0	42.6		ng/L		107	69 - 130	1	30
Perfluorodecanoic acid (PFDA)			40.0	44.3		ng/L		111	71 - 129	8	30
Perfluoroundecanoic acid (PFUnA)			40.0	41.2		ng/L		103	69 - 133	4	30
Perfluorododecanoic acid (PFDoA)			40.0	39.6		ng/L		99	72 - 134	3	30
Perfluorotridecanoic acid (PFTriA)			40.0	39.7		ng/L		99	65 - 144	7	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.2		ng/L		103	71 - 132	3	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.9		ng/L		107	72 - 130	14	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	39.6		ng/L		108	68 - 131	3	30
Perfluorooctanesulfonic acid (PFOS)			37.2	39.3		ng/L		106	65 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	41.7		ng/L		104	65 - 136	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	38.8		ng/L		97	61 - 135	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	37.3		ng/L		100	77 - 137	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	41.0		ng/L		103	72 - 132	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	36.9		ng/L		98	76 - 136	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	41.5		ng/L		110	81 - 141	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*92*		*50 - 150*
13C4 PFHpA	*100*		*50 - 150*
13C4 PFOA	*102*		*50 - 150*
13C5 PFNA	*101*		*50 - 150*
13C2 PFDA	*95*		*50 - 150*
13C2 PFUnA	*95*		*50 - 150*
13C2 PFDoA	*90*		*50 - 150*
13C2 PFTeDA	*80*		*50 - 150*
13C3 PFBS	*93*		*50 - 150*
18O2 PFHxS	*92*		*50 - 150*
13C4 PFOS	*102*		*50 - 150*
d3-NMeFOSAA	*97*		*50 - 150*
d5-NEtFOSAA	*94*		*50 - 150*
13C3 HFPO-DA	*88*		*50 - 150*

Lab Sample ID: 320-97977-A-7-B MS
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	12		34.9	38.1		ng/L		75	72 - 129
Perfluoroheptanoic acid (PFHpA)	3.2		34.9	37.9		ng/L		100	72 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97977-A-7-B MS
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	4.7		34.9	36.6		ng/L		91	71 - 133
Perfluorononanoic acid (PFNA)	1.8		34.9	41.4		ng/L		114	69 - 130
Perfluorodecanoic acid (PFDA)	1.3	J	34.9	38.9		ng/L		108	71 - 129
Perfluoroundecanoic acid (PFUnA)	ND		34.9	36.9		ng/L		106	69 - 133
Perfluorododecanoic acid (PFDoA)	ND		34.9	34.5		ng/L		99	72 - 134
Perfluorotridecanoic acid (PFTriA)	ND		34.9	32.6		ng/L		93	65 - 144
Perfluorotetradecanoic acid (PFTeA)	ND		34.9	37.5		ng/L		108	71 - 132
Perfluorobutanesulfonic acid (PFBS)	2.2		31.0	35.9		ng/L		109	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	28	F1	31.8	43.1	F1	ng/L		46	68 - 131
Perfluorooctanesulfonic acid (PFOS)	70	F1	32.4	86.7	F1	ng/L		51	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.9	37.4		ng/L		107	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.9	34.8		ng/L		100	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		32.6	35.7		ng/L		110	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		34.9	38.3		ng/L		110	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		32.9	34.0		ng/L		103	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		32.9	39.8		ng/L		121	81 - 141

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*74*		*50 - 150*
13C4 PFHpA	*75*		*50 - 150*
13C4 PFOA	*73*		*50 - 150*
13C5 PFNA	*67*		*50 - 150*
13C2 PFDA	*70*		*50 - 150*
13C2 PFUnA	*66*		*50 - 150*
13C2 PFDoA	*66*		*50 - 150*
13C2 PFTeDA	*49*	*5-	*50 - 150*
13C3 PFBS	*61*		*50 - 150*
18O2 PFHxS	*67*		*50 - 150*
13C4 PFOS	*67*		*50 - 150*
d3-NMeFOSAA	*69*		*50 - 150*
d5-NEtFOSAA	*74*		*50 - 150*
13C3 HFPO-DA	*69*		*50 - 150*

Lab Sample ID: 320-97977-A-7-C MSD
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	12		37.4	41.2		ng/L		78	72 - 129	8	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-97977-A-7-C MSD
Matrix: Water
Analysis Batch: 663052

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 662576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	3.2		37.4	35.8		ng/L		87	72 - 130	6	30
Perfluorooctanoic acid (PFOA)	4.7		37.4	40.1		ng/L		95	71 - 133	9	30
Perfluorononanoic acid (PFNA)	1.8		37.4	45.1		ng/L		116	69 - 130	8	30
Perfluorodecanoic acid (PFDA)	1.3	J	37.4	42.1		ng/L		109	71 - 129	8	30
Perfluoroundecanoic acid (PFUnA)	ND		37.4	37.2		ng/L		100	69 - 133	1	30
Perfluorododecanoic acid (PFDoA)	ND		37.4	40.1		ng/L		107	72 - 134	15	30
Perfluorotridecanoic acid (PFTriA)	ND		37.4	34.6		ng/L		93	65 - 144	6	30
Perfluorotetradecanoic acid (PFTeA)	ND		37.4	37.4		ng/L		100	71 - 132	0	30
Perfluorobutanesulfonic acid (PFBS)	2.2		33.2	39.6		ng/L		113	72 - 130	10	30
Perfluorohexanesulfonic acid (PFHxS)	28	F1	34.1	48.5	F1	ng/L		59	68 - 131	12	30
Perfluorooctanesulfonic acid (PFOS)	70	F1	34.7	89.4	F1	ng/L		55	65 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		37.4	39.3		ng/L		105	65 - 136	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		37.4	38.3		ng/L		103	61 - 135	10	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		34.9	36.8		ng/L		106	77 - 137	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		37.4	39.8		ng/L		107	72 - 132	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		35.3	33.2		ng/L		94	76 - 136	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		35.3	39.5		ng/L		112	81 - 141	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*61*		*50 - 150*
13C4 PFHpA	*57*		*50 - 150*
13C4 PFOA	*64*		*50 - 150*
13C5 PFNA	*57*		*50 - 150*
13C2 PFDA	*60*		*50 - 150*
13C2 PFUnA	*59*		*50 - 150*
13C2 PFDoA	*54*		*50 - 150*
13C2 PFTeDA	*40*	*5-	*50 - 150*
13C3 PFBS	*54*		*50 - 150*
18O2 PFHxS	*61*		*50 - 150*
13C4 PFOS	*61*		*50 - 150*
d3-NMeFOSAA	*61*		*50 - 150*
d5-NEtFOSAA	*67*		*50 - 150*
13C3 HFPO-DA	*59*		*50 - 150*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-668941/1-A
Matrix: Water
Analysis Batch: 669170

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 668941

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		04/20/23 12:07	04/21/23 10:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		04/20/23 12:07	04/21/23 10:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		04/20/23 12:07	04/21/23 10:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		04/20/23 12:07	04/21/23 10:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		04/20/23 12:07	04/21/23 10:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		04/20/23 12:07	04/21/23 10:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		04/20/23 12:07	04/21/23 10:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		04/20/23 12:07	04/21/23 10:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C4 PFHpA	*124*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C4 PFOA	*109*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C5 PFNA	*100*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C2 PFDA	*99*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C2 PFUnA	*106*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C2 PFDoA	*100*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C3 PFBS	*107*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
18O2 PFHxS	*97*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C4 PFOS	*104*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
d3-NMeFOSAA	*108*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
d5-NEtFOSAA	*114*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*
13C3 HFPO-DA	*103*		*50 - 150*	*04/20/23 12:07*	*04/21/23 10:58*	*1*

Lab Sample ID: LCS 320-668941/2-A
Matrix: Water
Analysis Batch: 669170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 668941

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	47.4		ng/L		119	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	39.3		ng/L		98	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	40.1		ng/L		100	71 - 133
Perfluorononanoic acid (PFNA)	40.0	45.0		ng/L		112	69 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-668941/2-A
Matrix: Water
Analysis Batch: 669170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 668941

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	40.0	42.8		ng/L		107	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	39.5		ng/L		99	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	41.8		ng/L		104	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	42.3		ng/L		106	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	41.6		ng/L		104	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	39.9		ng/L		112	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.1		ng/L		96	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	39.4		ng/L		106	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.1		ng/L		98	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.1		ng/L		98	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	40.1		ng/L		107	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	44.0		ng/L		110	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	42.5		ng/L		113	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	48.5		ng/L		128	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*109*		*50 - 150*
13C4 PFHpA	*122*		*50 - 150*
13C4 PFOA	*111*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C2 PFDA	*108*		*50 - 150*
13C2 PFUnA	*96*		*50 - 150*
13C2 PFDoA	*98*		*50 - 150*
13C2 PFTeDA	*101*		*50 - 150*
13C3 PFBS	*118*		*50 - 150*
18O2 PFHxS	*95*		*50 - 150*
13C4 PFOS	*96*		*50 - 150*
d3-NMeFOSAA	*103*		*50 - 150*
d5-NEtFOSAA	*109*		*50 - 150*
13C3 HFPO-DA	*102*		*50 - 150*

Lab Sample ID: LCSD 320-668941/3-A
Matrix: Water
Analysis Batch: 669170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 668941

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	44.2		ng/L		110	72 - 129	7	30
Perfluoroheptanoic acid (PFHpA)	40.0	39.0		ng/L		98	72 - 130	1	30
Perfluorooctanoic acid (PFOA)	40.0	43.3		ng/L		108	71 - 133	8	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-668941/3-A
Matrix: Water
Analysis Batch: 669170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 668941

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			40.0	47.5		ng/L		119	69 - 130	5	30
Perfluorodecanoic acid (PFDA)			40.0	44.7		ng/L		112	71 - 129	4	30
Perfluoroundecanoic acid (PFUnA)			40.0	41.9		ng/L		105	69 - 133	6	30
Perfluorododecanoic acid (PFDoA)			40.0	38.7		ng/L		97	72 - 134	8	30
Perfluorotridecanoic acid (PFTriA)			40.0	41.6		ng/L		104	65 - 144	2	30
Perfluorotetradecanoic acid (PFTeA)			40.0	37.5		ng/L		94	71 - 132	10	30
Perfluorobutanesulfonic acid (PFBS)			35.5	38.4		ng/L		108	72 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	37.4		ng/L		103	68 - 131	7	30
Perfluorooctanesulfonic acid (PFOS)			37.2	36.8		ng/L		99	65 - 140	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	39.6		ng/L		99	65 - 136	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	38.7		ng/L		97	61 - 135	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	39.3		ng/L		105	77 - 137	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	42.7		ng/L		107	72 - 132	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	40.4		ng/L		107	76 - 136	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	48.2		ng/L		128	81 - 141	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*111*		*50 - 150*
13C4 PFHpA	*117*		*50 - 150*
13C4 PFOA	*99*		*50 - 150*
13C5 PFNA	*92*		*50 - 150*
13C2 PFDA	*89*		*50 - 150*
13C2 PFUnA	*88*		*50 - 150*
13C2 PFDoA	*92*		*50 - 150*
13C2 PFTeDA	*99*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
18O2 PFHxS	*89*		*50 - 150*
13C4 PFOS	*92*		*50 - 150*
d3-NMeFOSAA	*94*		*50 - 150*
d5-NEtFOSAA	*95*		*50 - 150*
13C3 HFPO-DA	*97*		*50 - 150*

LCMS

Prep Batch: 662576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97978-1 - DL	108906-B1MW	Total/NA	Water	3535	
320-97978-1	108906-B1MW	Total/NA	Water	3535	
320-97978-2	108906-FB	Total/NA	Water	3535	
320-97978-3	108906-EB	Total/NA	Water	3535	
320-97978-4	108906-B2MW	Total/NA	Water	3535	
320-97978-5	108906-B12MW	Total/NA	Water	3535	
MB 320-662576/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-662576/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-662576/3-A	Lab Control Sample Dup	Total/NA	Water	3535	
320-97977-A-7-B MS	Matrix Spike	Total/NA	Water	3535	
320-97977-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	3535	

Analysis Batch: 663052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97978-1	108906-B1MW	Total/NA	Water	EPA 537(Mod)	662576
320-97978-2	108906-FB	Total/NA	Water	EPA 537(Mod)	662576
320-97978-3	108906-EB	Total/NA	Water	EPA 537(Mod)	662576
320-97978-4	108906-B2MW	Total/NA	Water	EPA 537(Mod)	662576
320-97978-5	108906-B12MW	Total/NA	Water	EPA 537(Mod)	662576
MB 320-662576/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	662576
LCS 320-662576/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	662576
LCSD 320-662576/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	662576
320-97977-A-7-B MS	Matrix Spike	Total/NA	Water	EPA 537(Mod)	662576
320-97977-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537(Mod)	662576

Analysis Batch: 664213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97978-1 - DL	108906-B1MW	Total/NA	Water	EPA 537(Mod)	662576

Prep Batch: 668941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97978-4 - RE	108906-B2MW	Total/NA	Water	3535	
320-97978-5 - RE	108906-B12MW	Total/NA	Water	3535	
MB 320-668941/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-668941/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-668941/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 669170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-97978-4 - RE	108906-B2MW	Total/NA	Water	EPA 537(Mod)	668941
320-97978-5 - RE	108906-B12MW	Total/NA	Water	EPA 537(Mod)	668941
MB 320-668941/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	668941
LCS 320-668941/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	668941
LCSD 320-668941/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	668941

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Client Sample ID: 108906-B1MW
Date Collected: 03/16/23 10:32
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			5.00 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	663052	03/24/23 01:49	K1S	EET SAC
Total/NA	Prep	3535	DL		5.00 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	664213	03/29/23 23:50	S1M	EET SAC

Client Sample ID: 108906-FB
Date Collected: 03/16/23 11:15
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			289.9 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	663052	03/24/23 01:59	K1S	EET SAC

Client Sample ID: 108906-EB
Date Collected: 03/16/23 11:40
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.1 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	663052	03/24/23 02:09	K1S	EET SAC

Client Sample ID: 108906-B2MW
Date Collected: 03/17/23 13:30
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RE		273.1 mL	10.0 mL	668941	04/20/23 12:07	SEY	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	669170	04/21/23 13:01	RS1	EET SAC
Total/NA	Prep	3535			5.00 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	663052	03/24/23 02:19	K1S	EET SAC

Client Sample ID: 108906-B12MW
Date Collected: 03/17/23 14:00
Date Received: 03/21/23 14:59

Lab Sample ID: 320-97978-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RE		278.6 mL	10.0 mL	668941	04/20/23 12:07	SEY	EET SAC
Total/NA	Analysis	EPA 537(Mod)	RE	1	1 mL	1 mL	669170	04/21/23 13:11	RS1	EET SAC
Total/NA	Prep	3535			5.00 mL	10.0 mL	662576	03/22/23 11:44	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	663052	03/24/23 02:30	K1S	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: NAC Fire Training Pit

Job ID: 320-97978-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-97978-1	108906-B1MW	Water	03/16/23 10:32	03/21/23 14:59
320-97978-2	108906-FB	Water	03/16/23 11:15	03/21/23 14:59
320-97978-3	108906-EB	Water	03/16/23 11:40	03/21/23 14:59
320-97978-4	108906-B2MW	Water	03/17/23 13:30	03/21/23 14:59
320-97978-5	108906-B12MW	Water	03/17/23 14:00	03/21/23 14:59

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins | Environment Testing America

Client Contact	Report To: Dan McMahon/Alec Rizzo	Site Contact:	Date:	COC No:
Shannon & Wilson	Tel/Fax: 907-561-2120	Lab Contact: David Alltucker	Carrier: AK Goldstreak	1 of 1 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906-002
Anchorage, Alaska 99518	Calendar (C) or Work Days (W)			SDG No.
907-561-2120	TAT if different from Below			
FAX:	[X] 2 weeks			
Project Name: ANC Fire Training Pit	[ ] 1 week			
Site:	[ ] 2 days			
P O # 108906-002	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3, Tab. B-15	Sample Specific Notes:
108906-B1MW	3/16/23	10:32	G	W	2		x	
108906-FB	3/16/23	11:15	G	W	2		x	
108906-EB	3/16/23	11:40	G	W	2		x	
108906-B2MW	3/17/23	13:30	G	W	2		x	
108906-B12MW	3/17/23	14:00	G	W	2		x	

320-97978 Chain of Custody

Preservation Used: (1= Ice) 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant Poison B [X] Unknown [ ]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [ ] Disposal By Lab [X] Archive For _____ Months

Special Instructions/QC Requirements & Comments:

1.0C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Shannon + Wilson	3/20/23 1115	[signature]	EETCA	3-21-23 1459
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-97978-1

Login Number: 97978
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2122578 2122579
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-97978-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	4/24/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 1.0° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *Data quality/usability considered unaffected; see above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*

- Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: (320-97977-A-7-A), (320-97977-A-7-B MS) and (320-97977-A-7-C MSD). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).
- Method EPA 537(Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-662576 and analytical batch 320-663052 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.
- Method EPA 537(Mod): Results for samples 108906-B1MW (320-97978-1) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

- Method EPA 537(Mod): The following samples exhibited matrix interferences for Perfluoroheptanoic acid (PFHpA) causing elevation of the reporting limit: 108906-B1MW (320-97978-1). The reporting limit for the affected analyte has been raised to be equal to the matrix, and a "G" qualifier applied.
- Method EPA 537(Mod): The following samples were extracted from an over diluted sample aliquot. Samples were re-extracted outside of the holding time at larger sample volume and both sets of data have been reported. 108906-B2MW (320-97978-4) and 108906-B12MW (320-97978-5).

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☐ No ☒ N/A ☐
Comments: *For Samples B2MW and B12MW, the samples were re-extracted outside of the holding time at larger sample volume and both sets of data have been reported. Data affected by the hold time are reported with an "H" in Table 4.*

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *Shannon & Wilson used the higher of the two reported results.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: .*

iii. If above LoQ or RL, what samples are affected?
Comments: *.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: *.*

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: *The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-662576 and analytical batch 320-663052 were outside control limits for one or more analytes, see QC Sample Results for detail.*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *All samples are potentially affected.*

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *The parent sample was from a separate work order. Therefore, flagging is not required.*

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: *The percent recoveries for PFDOA and PFTeDA are less than QC criteria in Samples B2MW and B12MW.*

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *The analytical results associated with the IDA recovery failures are non-detect. Therefore, flagging is not required.*

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments: *Volatile samples were not included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Sample B12MW (duplicate of Sample B2MW) was included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *All RPDs are within QC criteria of 30% for groundwater.*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: *One equipment blank (Sample EB) was included in the work order.*

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

Generated 8/21/2023 1:23:59 PM

JOB DESCRIPTION

ANC Fire Training Area

JOB NUMBER

320-103059-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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

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

Authorization

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Qualifiers

LCMS

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
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
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: 320-103059-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-103059-1

Receipt
The sample was received on 7/28/2023 4:38 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 20.6º C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: 108906-B11MW (320-103059-1). Samples were received out of temp at 20.6C. Gel packs were thawed out.

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

Organic Prep
Method 3535: The following sample in preparation batch 320-698836 was slightly Grey in color prior to extraction: 108906-B11MW (320-103059-1).

Method 3535: The following samples in preparation batch 320-698836 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: 108906-B11MW (320-103059-1).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-698836.

Method 3535: The following sample was prepared outside of preparation holding time due to scheduling oversight. 108906-B11MW (320-103059-1).

Method 3535: During the solid phase extraction process, the following sample contain non-settable particulates which clogged the solid phase extraction column: 108906-B11MW (320-103059-1).
preparation batch 320-698836

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Client Sample ID: 108906-B11MW

Lab Sample ID: 320-103059-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.29	J H	1.9	0.24	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.68	J H	1.9	0.51	ng/L	1		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Client Sample ID: 108906-B11MW
Date Collected: 07/20/23 14:25
Date Received: 07/28/23 16:38

Lab Sample ID: 320-103059-1
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND	H	1.9	0.55	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluoroheptanoic acid (PFHpA)	**0.29**	**J H**	1.9	0.24	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorooctanoic acid (PFOA)	ND	H	1.9	0.81	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorononanoic acid (PFNA)	ND	H	1.9	0.26	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorodecanoic acid (PFDA)	ND	H	1.9	0.29	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluoroundecanoic acid (PFUnA)	ND	H	1.9	1.0	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorododecanoic acid (PFDoA)	ND	H	1.9	0.52	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorotridecanoic acid (PFTriA)	ND	H	1.9	1.2	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorotetradecanoic acid (PFTeA)	ND	H	1.9	0.69	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorobutanesulfonic acid (PFBS)	ND	H	1.9	0.19	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND	H	1.9	0.54	ng/L		08/15/23 11:58	08/18/23 18:05	1
Perfluorooctanesulfonic acid (PFOS)	**0.68**	**J H**	1.9	0.51	ng/L		08/15/23 11:58	08/18/23 18:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	4.7	1.1	ng/L		08/15/23 11:58	08/18/23 18:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	4.7	1.2	ng/L		08/15/23 11:58	08/18/23 18:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND	H	1.9	0.23	ng/L		08/15/23 11:58	08/18/23 18:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	H	3.8	1.4	ng/L		08/15/23 11:58	08/18/23 18:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND	H	1.9	0.30	ng/L		08/15/23 11:58	08/18/23 18:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	H	1.9	0.38	ng/L		08/15/23 11:58	08/18/23 18:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*83*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C4 PFOA	*79*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C5 PFNA	*86*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C2 PFDA	*83*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C2 PFUnA	*74*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C2 PFDoA	*62*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C2 PFTeDA	*54*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C3 PFBS	*77*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
18O2 PFHxS	*79*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C4 PFOS	*83*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
d3-NMeFOSAA	*68*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
d5-NEtFOSAA	*69*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*
13C3 HFPO-DA	*87*		*50 - 150*	*08/15/23 11:58*	*08/18/23 18:05*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-103059-1	108906-B11MW	83	81	79	86	83	74	62	54
LCS 320-698836/2-A	Lab Control Sample	90	88	92	94	96	92	82	76
LCSD 320-698836/3-A	Lab Control Sample Dup	105	103	104	109	106	103	106	99
MB 320-698836/1-A	Method Blank	87	84	88	92	88	85	87	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-103059-1	108906-B11MW	77	79	83	68	69	87		
LCS 320-698836/2-A	Lab Control Sample	86	86	91	79	79	99		
LCSD 320-698836/3-A	Lab Control Sample Dup	95	100	107	91	100	110		
MB 320-698836/1-A	Method Blank	83	82	92	78	85	94		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-698836/1-A
Matrix: Water
Analysis Batch: 699721

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 698836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/15/23 11:58	08/17/23 18:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/15/23 11:58	08/17/23 18:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		08/15/23 11:58	08/17/23 18:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		08/15/23 11:58	08/17/23 18:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		08/15/23 11:58	08/17/23 18:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		08/15/23 11:58	08/17/23 18:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		08/15/23 11:58	08/17/23 18:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.552	J	2.0	0.40	ng/L		08/15/23 11:58	08/17/23 18:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C4 PFHpA	*84*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C4 PFOA	*88*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C5 PFNA	*92*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C2 PFDA	*88*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C2 PFUnA	*85*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C2 PFDoA	*87*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C3 PFBS	*83*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
18O2 PFHxS	*82*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C4 PFOS	*92*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
d3-NMeFOSAA	*78*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*08/15/23 11:58*	*08/17/23 18:23*	*1*

Lab Sample ID: LCS 320-698836/2-A
Matrix: Water
Analysis Batch: 699721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 698836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	42.1		ng/L		105	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	40.3		ng/L		101	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	39.7		ng/L		99	71 - 133
Perfluorononanoic acid (PFNA)	40.0	43.1		ng/L		108	69 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-698836/2-A
Matrix: Water
Analysis Batch: 699721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 698836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	40.0	40.6		ng/L		102	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	40.7		ng/L		102	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	43.3		ng/L		108	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	38.2		ng/L		96	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	41.9		ng/L		105	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	35.2		ng/L		99	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.9		ng/L		96	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	36.9		ng/L		99	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.1		ng/L		103	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.1		ng/L		98	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	38.5		ng/L		103	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	40.3		ng/L		101	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	35.2		ng/L		93	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.7		ng/L		108	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*90*		*50 - 150*
13C4 PFHpA	*88*		*50 - 150*
13C4 PFOA	*92*		*50 - 150*
13C5 PFNA	*94*		*50 - 150*
13C2 PFDA	*96*		*50 - 150*
13C2 PFUnA	*92*		*50 - 150*
13C2 PFDoA	*82*		*50 - 150*
13C2 PFTeDA	*76*		*50 - 150*
13C3 PFBS	*86*		*50 - 150*
18O2 PFHxS	*86*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*
d3-NMeFOSAA	*79*		*50 - 150*
d5-NEtFOSAA	*79*		*50 - 150*
13C3 HFPO-DA	*99*		*50 - 150*

Lab Sample ID: LCSD 320-698836/3-A
Matrix: Water
Analysis Batch: 699721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 698836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	40.3		ng/L		101	72 - 129	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.0		ng/L		103	72 - 130	2	30
Perfluorooctanoic acid (PFOA)	40.0	41.5		ng/L		104	71 - 133	4	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-698836/3-A
Matrix: Water
Analysis Batch: 699721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 698836

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			40.0	41.9		ng/L		105	69 - 130	3	30
Perfluorodecanoic acid (PFDA)			40.0	41.7		ng/L		104	71 - 129	3	30
Perfluoroundecanoic acid (PFUnA)			40.0	41.4		ng/L		103	69 - 133	2	30
Perfluorododecanoic acid (PFDoA)			40.0	42.8		ng/L		107	72 - 134	1	30
Perfluorotridecanoic acid (PFTriA)			40.0	40.1		ng/L		100	65 - 144	5	30
Perfluorotetradecanoic acid (PFTeA)			40.0	43.6		ng/L		109	71 - 132	4	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.7		ng/L		106	72 - 130	7	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	35.5		ng/L		97	68 - 131	2	30
Perfluorooctanesulfonic acid (PFOS)			37.2	36.3		ng/L		98	65 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	43.6		ng/L		109	65 - 136	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	42.2		ng/L		105	61 - 135	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	40.0		ng/L		107	77 - 137	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	41.1		ng/L		103	72 - 132	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	37.9		ng/L		100	76 - 136	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	38.6		ng/L		102	81 - 141	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*105*		*50 - 150*
13C4 PFHpA	*103*		*50 - 150*
13C4 PFOA	*104*		*50 - 150*
13C5 PFNA	*109*		*50 - 150*
13C2 PFDA	*106*		*50 - 150*
13C2 PFUnA	*103*		*50 - 150*
13C2 PFDoA	*106*		*50 - 150*
13C2 PFTeDA	*99*		*50 - 150*
13C3 PFBS	*95*		*50 - 150*
18O2 PFHxS	*100*		*50 - 150*
13C4 PFOS	*107*		*50 - 150*
d3-NMeFOSAA	*91*		*50 - 150*
d5-NEtFOSAA	*100*		*50 - 150*
13C3 HFPO-DA	*110*		*50 - 150*

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

LCMS

Prep Batch: 698836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103059-1	108906-B11MW	Total/NA	Water	3535	
MB 320-698836/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-698836/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-698836/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 699721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-698836/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	698836
LCS 320-698836/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	698836
LCSD 320-698836/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	698836

Analysis Batch: 699972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-103059-1	108906-B11MW	Total/NA	Water	EPA 537(Mod)	698836

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Client Sample ID: 108906-B11MW

Date Collected: 07/20/23 14:25
Date Received: 07/28/23 16:38

Lab Sample ID: 320-103059-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.8 mL	10.0 mL	698836	08/15/23 11:58	BLR	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	699972	08/18/23 18:05	D1R	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Job ID: 320-103059-1
Project/Site: ANC Fire Training Area

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-103059-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-103059-1	108906-B11MW	Water	07/20/23 14:25	07/28/23 16:38

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373 5600

Chain of Custody Record

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Client Contact	Report To: Dan.McMahon@shanwil.com	Site Contact	Date: 7/24/23	COC No: 1
Shannon & Wilson Inc.	Tel/Fax.	Lab Contact: David Alltucker	Carrier AK Goldstreak	of COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906-002
Anchorage, Alaska 99518	Calendar (C) or Work Days (W)			SDG No.
Phone: 907-561-2120	TAT if different from Below			
FAX:	☒ 2 weeks			
Project Name: ANC Fire Training Pit	☐ 1 week			
Site:	☐ 2 days			
P O # 108906-002	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes:
108906-B11MW	7/20/2023	14:25	Grab	H2O	2		X	

320-103059 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3 5=NaOH 6= Other

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

20.6

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	STW	7/24/23 910	[signature]	EETCA	7-28-23 1638
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-103059-1

Login Number: 103059
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	NA
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	gel packs
Cooler Temperature is acceptable.	False	Refer to Job Narrative for details.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-103059-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	8/21/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments: *PFAS by QSM 5.3 Table B-15.*

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☐ No ☒ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 20.6° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: *The laboratory noted the following:*
-The following sample was received at the laboratory outside the required temperature criteria: 108906-B11MW (320-103059-1). Samples were received out of temp at 20.6° C. Gel packs were thawed out.
-The following sample was prepared outside of preparation holding time due to scheduling oversight. 108906-B11MW (320-103059-1).

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *Pickup of the samples was delayed by the laboratory. Therefore, the sample exhibited an elevated temperature. The ADEC was notified and allowed analysis of the sample. PFAS is not expected to be impacted by the temperature exceedance.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
-Method 3535: The following sample in preparation batch 320-698836 was slightly Grey in color prior to extraction: 108906-B11MW (320-103059-1).
-Method 3535: The following samples in preparation batch 320-698836 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: 108906-B11MW (320-103059-1).
-Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-698836.
-Method 3535: The following sample was prepared outside of preparation holding time due to scheduling oversight. 108906-B11MW (320-103059-1).

-Method 3535: During the solid phase extraction process, the following sample contain non-settable particulates which clogged the solid phase extraction column: 108906-B11MW (320-103059-1).
preparation batch 320-698836

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: *PFAS by QSM 5.3 Table B-15.*

b. Are all applicable holding times met?
Yes ☐ No ☒ N/A ☐
Comments: *Samples were analyzed outside of hold time due to laboratory scheduling oversight.*

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *The sample is flagged "H" for the hold time exceedance.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments*: An estimated concentration of 4,8-Dioxa-3H-perfluorononanoic acid (0.552 J µg/L) was detected in the project method blank.*

iii. If above LoQ or RL, what samples are affected?
Comments: *All samples are potentially affected.*

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: *Although less than the LOQ, samples are flagged "B" in Table 4 when the reported sample concentration is within 10x the reported method blank concentration. The analyte was not detected in the project sample; therefore, no flagging is required.*

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☒ N/A ☐
Comments: *Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-698836.*

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☐ N/A ☒
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☐ No ☐ N/A ☒
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *An MS/MSD was not analyzed and could not be evaluated.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☐ No ☒ N/A ☐
Comments: *A duplicate sample was not included in this work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments:

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☐ N/A ☒
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: *An equipment blank or decontamination blank was not included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

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JOB DESCRIPTION

ANC Fire Training Area

JOB NUMBER

320-104184-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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

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Authorized for release by
David Alltucker, Project Manager I
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(916)374-4383

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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
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: 320-104184-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-104184-1

Receipt
The samples were received on 8/24/2023 3:01 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.5º C.

LCMS
Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method EPA 537(Mod): Results for samples 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-MW-04 (320-104184-4) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

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

Organic Prep
Method 3535: The following samples in preparation batch 320-702062 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6).

Method 3535: The following samples in preparation batch 320-702062 were observed to have floating particulates present in the sample bottle: 108906-MW-04 (320-104184-4).

Method 3535: During the solid phase extraction process, the following samples contained non-settleable particulates which clogged the solid phase extraction column: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6).

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-B12MW — Lab Sample ID: 320-104184-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	66		1.8	0.54	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.49	J	1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	14		1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	17		1.8	0.53	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B13MW — Lab Sample ID: 320-104184-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	2.9		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	6.2		1.7	0.72	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.30	J	1.7	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	65		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.4		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.9		1.7	0.46	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	870		8.5	2.5	ng/L	5		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-B23MW — Lab Sample ID: 320-104184-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	3.1		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	6.2		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.41	J	1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	69		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.8		1.7	0.47	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		1.7	0.45	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	960		8.3	2.4	ng/L	5		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-MW-04 — Lab Sample ID: 320-104184-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	53		1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	2.4		1.8	0.78	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	240		1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	22		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	1200		9.2	2.7	ng/L	5		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-FB2 — Lab Sample ID: 320-104184-5

No Detections.

Client Sample ID: 108906-GAC — Lab Sample ID: 320-104184-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.50	J	1.7	0.49	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-EB2 — Lab Sample ID: 320-104184-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-B12MW

Date Collected: 08/22/23 16:00
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-1

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**66**		1.8	0.54	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluoroheptanoic acid (PFHpA)	**0.49**	**J**	1.8	0.23	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.79	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.29	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorobutanesulfonic acid (PFBS)	**14**		1.8	0.18	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorohexanesulfonic acid (PFHxS)	**17**		1.8	0.53	ng/L		08/28/23 05:47	09/02/23 10:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.50	ng/L		08/28/23 05:47	09/02/23 10:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.6	1.1	ng/L		08/28/23 05:47	09/02/23 10:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.6	1.2	ng/L		08/28/23 05:47	09/02/23 10:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		08/28/23 05:47	09/02/23 10:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.7	1.4	ng/L		08/28/23 05:47	09/02/23 10:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.30	ng/L		08/28/23 05:47	09/02/23 10:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		08/28/23 05:47	09/02/23 10:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*77*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C4 PFHpA	*81*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C4 PFOA	*85*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C5 PFNA	*76*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C2 PFDA	*76*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C2 PFUnA	*64*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C2 PFDoA	*50*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C2 PFTeDA	*36*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C3 PFBS	*75*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
18O2 PFHxS	*79*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C4 PFOS	*77*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
d3-NMeFOSAA	*66*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
d5-NEtFOSAA	*57*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*
13C3 HFPO-DA	*66*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:29*	*1*

Client Sample ID: 108906-B13MW

Date Collected: 08/22/23 14:17
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-2

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**2.9**		1.7	0.21	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorooctanoic acid (PFOA)	**6.2**		1.7	0.72	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorononanoic acid (PFNA)	**0.30**	**J**	1.7	0.23	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.93	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.62	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorobutanesulfonic acid (PFBS)	**65**		1.7	0.17	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorohexanesulfonic acid (PFHxS)	**6.4**		1.7	0.48	ng/L		08/28/23 05:47	09/02/23 12:53	1
Perfluorooctanesulfonic acid (PFOS)	**4.9**		1.7	0.46	ng/L		08/28/23 05:47	09/02/23 12:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		08/28/23 05:47	09/02/23 12:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		08/28/23 05:47	09/02/23 12:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		08/28/23 05:47	09/02/23 12:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		08/28/23 05:47	09/02/23 12:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		08/28/23 05:47	09/02/23 12:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		08/28/23 05:47	09/02/23 12:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*70*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C4 PFOA	*65*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C5 PFNA	*69*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C2 PFDA	*67*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C2 PFUnA	*56*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C2 PFDoA	*47*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C2 PFTeDA	*37*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C3 PFBS	*69*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
18O2 PFHxS	*73*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C4 PFOS	*64*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
d3-NMeFOSAA	*54*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
d5-NEtFOSAA	*51*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*
13C3 HFPO-DA	*58*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:53*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**870**		8.5	2.5	ng/L		08/28/23 05:47	09/02/23 12:12	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*66*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:12*	*5*

Client Sample ID: 108906-B23MW

Date Collected: 08/22/23 14:47
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-3

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**3.1**		1.7	0.21	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorooctanoic acid (PFOA)	**6.2**		1.7	0.71	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorononanoic acid (PFNA)	**0.41**	**J**	1.7	0.22	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorobutanesulfonic acid (PFBS)	**69**		1.7	0.17	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**		1.7	0.47	ng/L		08/28/23 05:47	09/02/23 13:03	1
Perfluorooctanesulfonic acid (PFOS)	**5.6**		1.7	0.45	ng/L		08/28/23 05:47	09/02/23 13:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		08/28/23 05:47	09/02/23 13:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		08/28/23 05:47	09/02/23 13:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		08/28/23 05:47	09/02/23 13:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		08/28/23 05:47	09/02/23 13:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		08/28/23 05:47	09/02/23 13:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		08/28/23 05:47	09/02/23 13:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*73*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C4 PFOA	*75*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C5 PFNA	*73*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C2 PFDA	*73*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C2 PFUnA	*60*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C2 PFDoA	*51*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C2 PFTeDA	*43*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C3 PFBS	*68*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
18O2 PFHxS	*75*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C4 PFOS	*66*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
d3-NMeFOSAA	*59*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
d5-NEtFOSAA	*58*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*
13C3 HFPO-DA	*62*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:03*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**960**		8.3	2.4	ng/L		08/28/23 05:47	09/02/23 12:22	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*70*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:22*	*5*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-MW-04

Date Collected: 08/22/23 15:36
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-4

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**53**		1.8	0.23	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorooctanoic acid (PFOA)	**2.4**		1.8	0.78	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorobutanesulfonic acid (PFBS)	**240**		1.8	0.18	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorohexanesulfonic acid (PFHxS)	**22**		1.8	0.52	ng/L		08/28/23 05:47	09/02/23 13:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		08/28/23 05:47	09/02/23 13:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.6	1.1	ng/L		08/28/23 05:47	09/02/23 13:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.6	1.2	ng/L		08/28/23 05:47	09/02/23 13:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		08/28/23 05:47	09/02/23 13:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.7	1.4	ng/L		08/28/23 05:47	09/02/23 13:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		08/28/23 05:47	09/02/23 13:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		08/28/23 05:47	09/02/23 13:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C4 PFOA	*105*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C5 PFNA	*99*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C2 PFDA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C2 PFUnA	*98*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C2 PFDoA	*94*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C2 PFTeDA	*85*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C3 PFBS	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
18O2 PFHxS	*103*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C4 PFOS	*99*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
d3-NMeFOSAA	*92*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*
13C3 HFPO-DA	*84*		*50 - 150*	*08/28/23 05:47*	*09/02/23 13:13*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1200**		9.2	2.7	ng/L		08/28/23 05:47	09/02/23 12:42	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*50 - 150*	*08/28/23 05:47*	*09/02/23 12:42*	*5*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-FB2
Date Collected: 08/22/23 13:20
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-5
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.54	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.23	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.79	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.25	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.53	ng/L		08/28/23 05:47	09/02/23 10:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.50	ng/L		08/28/23 05:47	09/02/23 10:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.7	1.1	ng/L		08/28/23 05:47	09/02/23 10:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.7	1.2	ng/L		08/28/23 05:47	09/02/23 10:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.22	ng/L		08/28/23 05:47	09/02/23 10:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.7	1.4	ng/L		08/28/23 05:47	09/02/23 10:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.30	ng/L		08/28/23 05:47	09/02/23 10:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		08/28/23 05:47	09/02/23 10:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C4 PFHpA	*100*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C4 PFOA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C5 PFNA	*94*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C2 PFDA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C2 PFUnA	*96*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C2 PFDoA	*100*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C3 PFBS	*97*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
18O2 PFHxS	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C4 PFOS	*99*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
d3-NMeFOSAA	*91*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
d5-NEtFOSAA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/28/23 05:47*	*09/02/23 10:39*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-GAC
Date Collected: 08/22/23 17:15
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-6
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.50**	**J**	1.7	0.49	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.71	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.48	ng/L		08/28/23 05:47	09/02/23 11:00	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.45	ng/L		08/28/23 05:47	09/02/23 11:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		08/28/23 05:47	09/02/23 11:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		08/28/23 05:47	09/02/23 11:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		08/28/23 05:47	09/02/23 11:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.3	ng/L		08/28/23 05:47	09/02/23 11:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		08/28/23 05:47	09/02/23 11:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		08/28/23 05:47	09/02/23 11:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*58*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C4 PFHpA	*62*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C4 PFOA	*60*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C5 PFNA	*59*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C2 PFDA	*57*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C2 PFUnA	*46*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C2 PFDoA	*41*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C2 PFTeDA	*37*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C3 PFBS	*55*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
18O2 PFHxS	*57*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C4 PFOS	*54*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
d3-NMeFOSAA	*42*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
d5-NEtFOSAA	*49*	**5-*	*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*
13C3 HFPO-DA	*51*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:00*	*1*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-EB2
Date Collected: 08/22/23 17:45
Date Received: 08/24/23 15:01

Lab Sample ID: 320-104184-7
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.82	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.70	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.55	ng/L		08/28/23 05:47	09/02/23 11:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		08/28/23 05:47	09/02/23 11:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.8	1.2	ng/L		08/28/23 05:47	09/02/23 11:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.8	1.3	ng/L		08/28/23 05:47	09/02/23 11:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.23	ng/L		08/28/23 05:47	09/02/23 11:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.9	1.4	ng/L		08/28/23 05:47	09/02/23 11:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.31	ng/L		08/28/23 05:47	09/02/23 11:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.39	ng/L		08/28/23 05:47	09/02/23 11:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C4 PFHpA	*102*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C4 PFOA	*99*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C5 PFNA	*100*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C2 PFDA	*103*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C2 PFUnA	*103*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C2 PFDoA	*106*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C3 PFBS	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
18O2 PFHxS	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C4 PFOS	*98*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
d3-NMeFOSAA	*88*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
d5-NEtFOSAA	*100*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*
13C3 HFPO-DA	*84*		*50 - 150*	*08/28/23 05:47*	*09/02/23 11:10*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-104184-1	108906-B12MW	77	81	85	76	76	64	50	36 *5-
320-104184-2 - DL	108906-B13MW	66							
320-104184-2	108906-B13MW		70	65	69	67	56	47 *5-	37 *5-
320-104184-3 - DL	108906-B23MW	70							
320-104184-3	108906-B23MW		73	75	73	73	60	51	43 *5-
320-104184-4 - DL	108906-MW-04	96							
320-104184-4	108906-MW-04		101	105	99	101	98	94	85
320-104184-5	108906-FB2	103	100	101	94	101	96	100	83
320-104184-6	108906-GAC	58	62	60	59	57	46 *5-	41 *5-	37 *5-
320-104184-7	108906-EB2	101	102	99	100	103	103	106	98
570-149692-B-1-A MS	Matrix Spike	113	114	108	105	110	107	105	93
570-149692-B-1-B MSD	Matrix Spike Duplicate	105	96	105	101	101	95	94	90
LCS 320-702062/2-A	Lab Control Sample	103	108	103	102	104	98	101	85
LCSD 320-702062/3-A	Lab Control Sample Dup	97	102	99	101	100	99	96	79
MB 320-702062/1-A	Method Blank	93	102	101	98	91	92	84	77

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-104184-1	108906-B12MW	75	79	77	66	57	66		
320-104184-2 - DL	108906-B13MW								
320-104184-2	108906-B13MW	69	73	64	54	51	58		
320-104184-3 - DL	108906-B23MW								
320-104184-3	108906-B23MW	68	75	66	59	58	62		
320-104184-4 - DL	108906-MW-04								
320-104184-4	108906-MW-04	101	103	99	92	98	84		
320-104184-5	108906-FB2	97	101	99	91	101	81		
320-104184-6	108906-GAC	55	57	54	42 *5-	49 *5-	51		
320-104184-7	108906-EB2	101	101	98	88	100	84		
570-149692-B-1-A MS	Matrix Spike	111	108	113	109	107	94		
570-149692-B-1-B MSD	Matrix Spike Duplicate	108	104	100	105	96	84		
LCS 320-702062/2-A	Lab Control Sample	98	101	100	103	96	85		
LCSD 320-702062/3-A	Lab Control Sample Dup	102	99	97	95	100	84		
MB 320-702062/1-A	Method Blank	99	97	92	87	86	81		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-702062/1-A
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 702062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/28/23 05:47	09/02/23 09:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/28/23 05:47	09/02/23 09:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		08/28/23 05:47	09/02/23 09:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		08/28/23 05:47	09/02/23 09:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		08/28/23 05:47	09/02/23 09:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		08/28/23 05:47	09/02/23 09:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		08/28/23 05:47	09/02/23 09:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/28/23 05:47	09/02/23 09:07	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C4 PFHpA	*102*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C4 PFOA	*101*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C5 PFNA	*98*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C2 PFDA	*91*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C2 PFUnA	*92*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C2 PFDoA	*84*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C2 PFTeDA	*77*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C3 PFBS	*99*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
18O2 PFHxS	*97*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C4 PFOS	*92*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
d5-NEtFOSAA	*86*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*08/28/23 05:47*	*09/02/23 09:07*	*1*

Lab Sample ID: LCS 320-702062/2-A
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	39.9		ng/L		100	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	38.6		ng/L		97	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	41.0		ng/L		102	71 - 133
Perfluorononanoic acid (PFNA)	40.0	42.8		ng/L		107	69 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-702062/2-A
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	40.0	40.4		ng/L		101	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	43.5		ng/L		109	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	43.5		ng/L		109	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	38.8		ng/L		97	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	41.2		ng/L		103	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	34.8		ng/L		98	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.1		ng/L		96	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	36.7		ng/L		99	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.3		ng/L		96	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.3		ng/L		98	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	34.6		ng/L		93	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	42.0		ng/L		105	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	35.7		ng/L		95	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	37.5		ng/L		99	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*103*		*50 - 150*
13C4 PFHpA	*108*		*50 - 150*
13C4 PFOA	*103*		*50 - 150*
13C5 PFNA	*102*		*50 - 150*
13C2 PFDA	*104*		*50 - 150*
13C2 PFUnA	*98*		*50 - 150*
13C2 PFDoA	*101*		*50 - 150*
13C2 PFTeDA	*85*		*50 - 150*
13C3 PFBS	*98*		*50 - 150*
18O2 PFHxS	*101*		*50 - 150*
13C4 PFOS	*100*		*50 - 150*
d3-NMeFOSAA	*103*		*50 - 150*
d5-NEtFOSAA	*96*		*50 - 150*
13C3 HFPO-DA	*85*		*50 - 150*

Lab Sample ID: LCSD 320-702062/3-A
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	41.7		ng/L		104	72 - 129	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	72 - 130	1	30
Perfluorooctanoic acid (PFOA)	40.0	44.8		ng/L		112	71 - 133	9	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-702062/3-A
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 702062

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			40.0	44.0		ng/L		110	69 - 130	3	30
Perfluorodecanoic acid (PFDA)			40.0	39.9		ng/L		100	71 - 129	1	30
Perfluoroundecanoic acid (PFUnA)			40.0	44.3		ng/L		111	69 - 133	2	30
Perfluorododecanoic acid (PFDoA)			40.0	43.9		ng/L		110	72 - 134	1	30
Perfluorotridecanoic acid (PFTriA)			40.0	37.3		ng/L		93	65 - 144	4	30
Perfluorotetradecanoic acid (PFTeA)			40.0	43.3		ng/L		108	71 - 132	5	30
Perfluorobutanesulfonic acid (PFBS)			35.5	35.9		ng/L		101	72 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	33.9		ng/L		93	68 - 131	3	30
Perfluorooctanesulfonic acid (PFOS)			37.2	39.0		ng/L		105	65 - 140	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	43.1		ng/L		108	65 - 136	12	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	39.3		ng/L		98	61 - 135	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	35.8		ng/L		96	77 - 137	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	42.5		ng/L		106	72 - 132	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	34.9		ng/L		92	76 - 136	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	39.3		ng/L		104	81 - 141	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*97*		*50 - 150*
13C4 PFHpA	*102*		*50 - 150*
13C4 PFOA	*99*		*50 - 150*
13C5 PFNA	*101*		*50 - 150*
13C2 PFDA	*100*		*50 - 150*
13C2 PFUnA	*99*		*50 - 150*
13C2 PFDoA	*96*		*50 - 150*
13C2 PFTeDA	*79*		*50 - 150*
13C3 PFBS	*102*		*50 - 150*
18O2 PFHxS	*99*		*50 - 150*
13C4 PFOS	*97*		*50 - 150*
d3-NMeFOSAA	*95*		*50 - 150*
d5-NEtFOSAA	*100*		*50 - 150*
13C3 HFPO-DA	*84*		*50 - 150*

Lab Sample ID: 570-149692-B-1-A MS
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	1.2	J	36.6	39.1		ng/L		103	72 - 129
Perfluoroheptanoic acid (PFHpA)	1.3	J	36.6	36.9		ng/L		97	72 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 570-149692-B-1-A MS
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	0.90	J	36.6	40.6		ng/L		108	71 - 133
Perfluorononanoic acid (PFNA)	ND		36.6	40.0		ng/L		109	69 - 130
Perfluorodecanoic acid (PFDA)	ND		36.6	37.7		ng/L		103	71 - 129
Perfluoroundecanoic acid (PFUnA)	ND		36.6	37.4		ng/L		102	69 - 133
Perfluorododecanoic acid (PFDoA)	ND		36.6	41.1		ng/L		112	72 - 134
Perfluorotridecanoic acid (PFTriA)	ND		36.6	36.1		ng/L		99	65 - 144
Perfluorotetradecanoic acid (PFTeA)	ND		36.6	38.0		ng/L		104	71 - 132
Perfluorobutanesulfonic acid (PFBS)	0.44	J	32.5	31.7		ng/L		96	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	33.4	31.9		ng/L		94	68 - 131
Perfluorooctanesulfonic acid (PFOS)	1.2	J	34.1	33.3		ng/L		94	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		36.6	35.1		ng/L		96	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		36.6	37.5		ng/L		102	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		34.2	30.7		ng/L		90	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		36.6	37.9		ng/L		103	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		34.6	31.6		ng/L		91	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		34.7	33.0		ng/L		95	81 - 141

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*113*		*50 - 150*
13C4 PFHpA	*114*		*50 - 150*
13C4 PFOA	*108*		*50 - 150*
13C5 PFNA	*105*		*50 - 150*
13C2 PFDA	*110*		*50 - 150*
13C2 PFUnA	*107*		*50 - 150*
13C2 PFDoA	*105*		*50 - 150*
13C2 PFTeDA	*93*		*50 - 150*
13C3 PFBS	*111*		*50 - 150*
18O2 PFHxS	*108*		*50 - 150*
13C4 PFOS	*113*		*50 - 150*
d3-NMeFOSAA	*109*		*50 - 150*
d5-NEtFOSAA	*107*		*50 - 150*
13C3 HFPO-DA	*94*		*50 - 150*

Lab Sample ID: 570-149692-B-1-B MSD
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	1.2	J	35.6	38.3		ng/L		104	72 - 129	2	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 570-149692-B-1-B MSD
Matrix: Water
Analysis Batch: 703610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 702062

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	1.3	J	35.6	40.5		ng/L		110	72 - 130	9	30
Perfluorooctanoic acid (PFOA)	0.90	J	35.6	37.4		ng/L		103	71 - 133	8	30
Perfluorononanoic acid (PFNA)	ND		35.6	40.0		ng/L		113	69 - 130	0	30
Perfluorodecanoic acid (PFDA)	ND		35.6	36.5		ng/L		103	71 - 129	3	30
Perfluoroundecanoic acid (PFUnA)	ND		35.6	39.7		ng/L		112	69 - 133	6	30
Perfluorododecanoic acid (PFDoA)	ND		35.6	40.4		ng/L		114	72 - 134	2	30
Perfluorotridecanoic acid (PFTriA)	ND		35.6	37.9		ng/L		107	65 - 144	5	30
Perfluorotetradecanoic acid (PFTeA)	ND		35.6	35.9		ng/L		101	71 - 132	6	30
Perfluorobutanesulfonic acid (PFBS)	0.44	J	31.6	32.4		ng/L		101	72 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	32.4	30.4		ng/L		92	68 - 131	5	30
Perfluorooctanesulfonic acid (PFOS)	1.2	J	33.1	34.9		ng/L		102	65 - 140	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		35.6	32.7		ng/L		92	65 - 136	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		35.6	36.8		ng/L		103	61 - 135	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		33.2	29.8		ng/L		90	77 - 137	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		35.6	37.6		ng/L		106	72 - 132	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		33.6	30.8		ng/L		92	76 - 136	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		33.6	35.3		ng/L		105	81 - 141	7	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*105*		*50 - 150*
13C4 PFHpA	*96*		*50 - 150*
13C4 PFOA	*105*		*50 - 150*
13C5 PFNA	*101*		*50 - 150*
13C2 PFDA	*101*		*50 - 150*
13C2 PFUnA	*95*		*50 - 150*
13C2 PFDoA	*94*		*50 - 150*
13C2 PFTeDA	*90*		*50 - 150*
13C3 PFBS	*108*		*50 - 150*
18O2 PFHxS	*104*		*50 - 150*
13C4 PFOS	*100*		*50 - 150*
d3-NMeFOSAA	*105*		*50 - 150*
d5-NEtFOSAA	*96*		*50 - 150*
13C3 HFPO-DA	*84*		*50 - 150*

LCMS

Prep Batch: 702062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-104184-1	108906-B12MW	Total/NA	Water	3535	
320-104184-2 - DL	108906-B13MW	Total/NA	Water	3535	
320-104184-2	108906-B13MW	Total/NA	Water	3535	
320-104184-3 - DL	108906-B23MW	Total/NA	Water	3535	
320-104184-3	108906-B23MW	Total/NA	Water	3535	
320-104184-4	108906-MW-04	Total/NA	Water	3535	
320-104184-4 - DL	108906-MW-04	Total/NA	Water	3535	
320-104184-5	108906-FB2	Total/NA	Water	3535	
320-104184-6	108906-GAC	Total/NA	Water	3535	
320-104184-7	108906-EB2	Total/NA	Water	3535	
MB 320-702062/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-702062/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-702062/3-A	Lab Control Sample Dup	Total/NA	Water	3535	
570-149692-B-1-A MS	Matrix Spike	Total/NA	Water	3535	
570-149692-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3535	

Analysis Batch: 703610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-104184-1	108906-B12MW	Total/NA	Water	EPA 537(Mod)	702062
320-104184-2 - DL	108906-B13MW	Total/NA	Water	EPA 537(Mod)	702062
320-104184-2	108906-B13MW	Total/NA	Water	EPA 537(Mod)	702062
320-104184-3 - DL	108906-B23MW	Total/NA	Water	EPA 537(Mod)	702062
320-104184-3	108906-B23MW	Total/NA	Water	EPA 537(Mod)	702062
320-104184-4 - DL	108906-MW-04	Total/NA	Water	EPA 537(Mod)	702062
320-104184-4	108906-MW-04	Total/NA	Water	EPA 537(Mod)	702062
320-104184-5	108906-FB2	Total/NA	Water	EPA 537(Mod)	702062
320-104184-6	108906-GAC	Total/NA	Water	EPA 537(Mod)	702062
320-104184-7	108906-EB2	Total/NA	Water	EPA 537(Mod)	702062
MB 320-702062/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	702062
LCS 320-702062/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	702062
LCSD 320-702062/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	702062
570-149692-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537(Mod)	702062
570-149692-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537(Mod)	702062

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-B12MW
Lab Sample ID: 320-104184-1
Date Collected: 08/22/23 16:00
Matrix: Water
Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			270.5 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 10:29	C1P	EET SAC

Client Sample ID: 108906-B13MW
Lab Sample ID: 320-104184-2
Date Collected: 08/22/23 14:17
Matrix: Water
Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		295.3 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	703610	09/02/23 12:12	C1P	EET SAC
Total/NA	Prep	3535			295.3 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 12:53	C1P	EET SAC

Client Sample ID: 108906-B23MW
Lab Sample ID: 320-104184-3
Date Collected: 08/22/23 14:47
Matrix: Water
Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		300.5 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	703610	09/02/23 12:22	C1P	EET SAC
Total/NA	Prep	3535			300.5 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 13:03	C1P	EET SAC

Client Sample ID: 108906-MW-04
Lab Sample ID: 320-104184-4
Date Collected: 08/22/23 15:36
Matrix: Water
Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		272.8 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	703610	09/02/23 12:42	C1P	EET SAC
Total/NA	Prep	3535			272.8 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 13:13	C1P	EET SAC

Client Sample ID: 108906-FB2
Lab Sample ID: 320-104184-5
Date Collected: 08/22/23 13:20
Matrix: Water
Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			268 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 10:39	C1P	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Client Sample ID: 108906-GAC

Lab Sample ID: 320-104184-6

Date Collected: 08/22/23 17:15

Matrix: Water

Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			298.6 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 11:00	C1P	EET SAC

Client Sample ID: 108906-EB2

Lab Sample ID: 320-104184-7

Date Collected: 08/22/23 17:45

Matrix: Water

Date Received: 08/24/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			259.4 mL	10.0 mL	702062	08/28/23 05:47	RLT	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	703610	09/02/23 11:10	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Job ID: 320-104184-1
Project/Site: ANC Fire Training Area

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Area

Job ID: 320-104184-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-104184-1	108906-B12MW	Water	08/22/23 16:00	08/24/23 15:01
320-104184-2	108906-B13MW	Water	08/22/23 14:17	08/24/23 15:01
320-104184-3	108906-B23MW	Water	08/22/23 14:47	08/24/23 15:01
320-104184-4	108906-MW-04	Water	08/22/23 15:36	08/24/23 15:01
320-104184-5	108906-FB2	Water	08/22/23 13:20	08/24/23 15:01
320-104184-6	108906-GAC	Water	08/22/23 17:15	08/24/23 15:01
320-104184-7	108906-EB2	Water	08/22/23 17:45	08/24/23 15:01

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

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Client Contact	Report To: Dan McMahon	Site Contact:	Date:	COC No:
Shannon & Wilson Inc.	Tel/Fax:907-433-3217	Lab Contact: David Althacker	Carrier: Goldstreak	1 of 1 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906
Anchorage, AK 99578	Calendar (C) or Work Days (W) _____			
Phone: 907-561-2120	TAT if different from Below _____			SDG No.
FAX:	■ 2 weeks			
Project Name: ANC Fire Training Area	☐ 1 week			
Site:	☐ 2 days			
P O # 108906-002	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3, Tab. B-15	Sample Specific Notes:
108906-B12MW	8/17/2023	16:00	G	H20	2		X	
108906-B13MW	8/22/2023	14:17	G	H20	2		X	
108906-B23MW	8/22/2023	14:47	G	H20	2		X	
108906-MW-04	8/22/2023	15:36	G	H20	2		X	
108906-FB2	8/22/2023	13:20	G	H20	2		X	
108906-GAC	8/22/2023	17:15	G	H20	2		X	
108906-EB2	8/22/2023	17:45	G	H20	2		X	

320-104184 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B [X] Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: Level II Data Package

0.5

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Shannon + Wilson	8/22/22 1030	[signature]	EETCA	8-24-23 1501
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

9/5/2023

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Sacramento Sample Receiving Notes

Loc: 320
104184 Set Label Here

Tracking # : 027 ANC 9887 1054

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: 411 Corr. Factor: (+ / -) 0 °C

Ice _____ Wet _____ Gel X Other _____

Cooler Custody Seal: SEAL

Cooler ID: _____

Temp Observed: 0.5 °C Corrected: 0.5 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: SO Date: 8-24-23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 8/24/23

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☑	☐

Initials: _____ Date: 8/24/23

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-104184-1

Login Number: 104184
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-104184-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	9/5/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments: *PFAS by QSM 5.3 Table B-15.*

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 0.5° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: *No discrepancies were noted.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).
-Method EPA 537(Mod): Results for samples 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-MW-04 (320-104184-4) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits
-Method 3535: The following samples in preparation batch 320-702062 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6).

-Method 3535: The following samples in preparation batch 320-702062 were observed to have floating particulates present in the sample bottle: 108906-MW-04 (320-104184-4).
-Method 3535: During the solid phase extraction process, the following samples contained non-settleable particulates which clogged the solid phase extraction column: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6).

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: *PFAS by QSM 5.3 Table B-15.*

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*:* .

iii. If above LoQ or RL, what samples are affected?
Comments: .

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: .

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: *The case narrative noted the following:*

-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 108906-B12MW (320-104184-1), 108906-B13MW (320-104184-2), 108906-B23MW (320-104184-3) and 108906-GAC (320-104184-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: The IDA recovery failures in the above-mentioned samples were below QC criteria. However, the affected analytes were reported as non-detect in the project samples. Therefore, no flagging is required.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Sample B23MW (duplicate of Sample B13MW) was included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *All primary/duplicate results were within QC criteria.*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: *An equipment blank and field blank were included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: *All results were reported as non-detect.*

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Dan McMahon
Shannon & Wilson, Inc
5430 Fairbanks Street
Suite 3
Anchorage, Alaska 99518-1263

Generated 7/24/2023 1:07:11 PM

JOB DESCRIPTION

ANC Fire Training Pit

JOB NUMBER

320-101244-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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
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: 320-101244-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-101244-1

Comments
No additional comments.

Receipt
The samples were received on 6/7/2023 1:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 6.3º C.

Receipt Exceptions
The cooler was received at the laboratory outside the required temperature criteria. This does not meet regulatory requirements.

LCMS
Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 108906-SD6 (320-101244-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte.

Method EPA 537(Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 320-683605 and analytical batch 320-683882 were outside control limits for one or more analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13),108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method EPA 537(Mod): Results for samples 108906-SD1 (320-101244-1), 108906-SD5 (320-101244-5), 108906-SD6 (320-101244-6), 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12) and 108906-SW15 (320-101244-16) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method EPA 537(Mod): The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 320-683605 and analytical batch 320-683882 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Perfluorooctanesulfonic acid (PFOS) in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method EPA 537(Mod): The concentration of analyte associated with the following samples exceeded the instrument calibration range: 108906-SW6 (320-101244-13) and 108906-SW7 (320-101244-14). This analyte has been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.The client was contacted and gave permission to report.

Method EPA 537(Mod): Internal standard (ISTD) response for the following sample was outside control limits: 108906-SW7 (320-101244-14). The sample was re-analyzed and ISTD response was outside control limits.

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

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

Job ID: 320-101244-1 (Continued)

Laboratory: Eurofins Sacramento (Continued)

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-684152.

Method 3535: The following samples in preparation batch 320-684152 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13), 108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16)

Method 3535: During the solid phase extraction process, the following samples contained non-settleable particulates which clogged the solid phase extraction column: 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13), 108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16).

Method SHAKE: The following sample in preparation batch 320-683605 was yellow in color following extraction: 108906-SD1 (320-101244-1).

Method SHAKE: The following sample in preparation batch 320-683605 was purple in color following extraction: 108906-SD6 (320-101244-6).

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD1 — Lab Sample ID: 320-101244-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.9		0.26	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.57		0.26	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.2		0.26	0.068	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.93		0.26	0.028	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.53		0.26	0.061	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.14	J	0.26	0.038	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4		0.26	0.037	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.062	J	0.26	0.029	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	49		1.3	0.27	ug/Kg	5	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SD2 — Lab Sample ID: 320-101244-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.89		0.26	0.040	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.26	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.69		0.26	0.068	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.24	J	0.26	0.028	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.45		0.26	0.062	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.95		0.26	0.037	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	22		0.26	0.055	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	0.26	0.062	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SD3 — Lab Sample ID: 320-101244-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.36		0.23	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.094	J	0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.27		0.23	0.062	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.11	J	0.23	0.026	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.16	J	0.23	0.056	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.48		0.23	0.034	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.6		0.23	0.050	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.036	J I	0.23	0.027	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SD4 — Lab Sample ID: 320-101244-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.0		0.25	0.038	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.19	J	0.25	0.047	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.1		0.25	0.066	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.46		0.25	0.059	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2		0.25	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	19		0.25	0.053	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.25		0.25	0.059	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.063	J	0.25	0.048	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD5 — Lab Sample ID: 320-101244-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.87		0.22	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.17	J	0.22	0.043	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.4		0.22	0.059	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.46		0.22	0.025	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.65		0.22	0.054	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.7		0.22	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.20	J	0.22	0.054	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	33		1.1	0.24	ug/Kg	5	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SD6 — Lab Sample ID: 320-101244-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	4.9		0.24	0.046	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	16		0.24	0.064	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	16		0.24	0.058	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorododecanoic acid (PFDoA)	11		0.24	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	2.6		0.24	0.045	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.32		0.24	0.046	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10		0.24	0.035	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.4	I	0.24	0.028	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.6		0.24	0.058	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	27		24	3.8	ug/Kg	100	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1200		24	5.2	ug/Kg	100	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SD15 — Lab Sample ID: 320-101244-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.67	F1	0.23	0.036	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.23	0.044	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.76	F1	0.23	0.061	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.32		0.23	0.025	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	0.41	F1	0.23	0.055	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	F2 F1	0.23	0.033	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	20	F2	0.23	0.049	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.16	J I	0.23	0.026	ug/Kg	1	☼	EPA 537(Mod)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	0.23	0.055	ug/Kg	1	☼	EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW1 — Lab Sample ID: 320-101244-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	240		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	270		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	61		1.7	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	19		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	36		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	290		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	1000		17	4.9	ng/L	10		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: 108906-SW1 (Continued) — Lab Sample ID: 320-101244-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS) - DL	1200		17	4.5	ng/L	10		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW2 — Lab Sample ID: 320-101244-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	140		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	190		1.7	0.70	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	41		1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	22		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	32		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	250		1.7	0.47	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	680		17	4.8	ng/L	10		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1100		17	4.5	ng/L	10		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW3 — Lab Sample ID: 320-101244-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	270		1.7	0.49	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	57		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	96		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	25		1.7	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	17		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	26		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	160		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	860		17	4.5	ng/L	10		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW4 — Lab Sample ID: 320-101244-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	270		1.7	0.51	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	56		1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	100		1.7	0.74	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	23		1.7	0.24	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	19		1.7	0.27	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	33		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	180		1.7	0.50	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	850		17	4.7	ng/L	10		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW5 — Lab Sample ID: 320-101244-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	120		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	26		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	52		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	12		1.7	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	13		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	26		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	120		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	520		17	4.5	ng/L	10		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW6 — Lab Sample ID: 320-101244-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	30000		160	48	ng/L	100		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9200		160	21	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	13000		160	70	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1700		160	22	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	1500		160	25	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	530		160	16	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12000		160	47	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	130000	E	160	44	ng/L	100		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW7 — Lab Sample ID: 320-101244-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	33000		170	50	ng/L	100		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	10000		170	21	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	14000		170	73	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1500		170	23	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	1300		170	27	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	720		170	17	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12000		170	49	ng/L	100		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	97000	E	170	46	ng/L	100		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW8 — Lab Sample ID: 320-101244-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	93		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	60		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	52		1.7	0.70	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	22		1.7	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	2.9		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	64		1.7	0.47	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	49		1.7	0.45	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: 108906-SW15 — Lab Sample ID: 320-101244-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	120		1.7	0.49	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	25		1.7	0.21	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	51		1.7	0.71	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorononanoic acid (PFNA)	12		1.7	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorodecanoic acid (PFDA)	15		1.7	0.26	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	25		1.7	0.17	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	120		1.7	0.48	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	510		8.4	2.3	ng/L	5		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD1
Date Collected: 06/06/23 10:00
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-1
Matrix: Solid
Percent Solids: 75.3

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	1.9		0.26	0.040	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluoroheptanoic acid (PFHpA)	0.57		0.26	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorooctanoic acid (PFOA)	1.2		0.26	0.068	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorononanoic acid (PFNA)	0.93		0.26	0.028	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorodecanoic acid (PFDA)	0.53		0.26	0.061	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.26	0.054	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorododecanoic acid (PFDoA)	0.14	J	0.26	0.038	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.027	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Perfluorohexanesulfonic acid (PFHxS)	1.4		0.26	0.037	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.062	J	0.26	0.029	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.26	0.061	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.26	0.045	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.26	0.052	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.26	0.040	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.26	0.050	ug/Kg	☼	06/15/23 18:52	06/17/23 12:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*88*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C4 PFHpA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C4 PFOA	*85*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C5 PFNA	*79*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C2 PFDA	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C2 PFUnA	*91*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C2 PFDoA	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C3 PFBS	*67*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
18O2 PFHxS	*87*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C4 PFOS	*79*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
d5-NEtFOSAA	*76*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:21*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	49		1.3	0.27	ug/Kg	☼	06/15/23 18:52	07/22/23 20:14	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*78*		*50 - 150*	*06/15/23 18:52*	*07/22/23 20:14*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	24.7		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	75.3		0.1	0.1	%			06/08/23 10:48	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD2
Date Collected: 06/06/23 10:15
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-2
Matrix: Solid
Percent Solids: 70.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.89**		0.26	0.040	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluoroheptanoic acid (PFHpA)	**0.18**	**J**	0.26	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorooctanoic acid (PFOA)	**0.69**		0.26	0.068	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorononanoic acid (PFNA)	**0.24**	**J**	0.26	0.028	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorodecanoic acid (PFDA)	**0.45**		0.26	0.062	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.26	0.054	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.26	0.038	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.027	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorohexanesulfonic acid (PFHxS)	**0.95**		0.26	0.037	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Perfluorooctanesulfonic acid (PFOS)	**22**		0.26	0.055	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.26	0.029	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.14**	**J**	0.26	0.062	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.26	0.045	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.26	0.053	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.26	0.040	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.26	0.050	ug/Kg	☼	06/15/23 18:52	06/17/23 12:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C4 PFHpA	*88*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C4 PFOA	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C5 PFNA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C2 PFDA	*78*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C2 PFUnA	*97*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C2 PFDoA	*93*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C3 PFBS	*77*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
18O2 PFHxS	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C4 PFOS	*82*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
d3-NMeFOSAA	*78*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
d5-NEtFOSAA	*72*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**29.1**		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	**70.9**		0.1	0.1	%			06/08/23 10:48	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD3
Date Collected: 06/06/23 10:35
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-3
Matrix: Solid
Percent Solids: 80.1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.36**		0.23	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluoroheptanoic acid (PFHpA)	**0.094**	**J**	0.23	0.044	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorooctanoic acid (PFOA)	**0.27**		0.23	0.062	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorononanoic acid (PFNA)	**0.11**	**J**	0.23	0.026	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorodecanoic acid (PFDA)	**0.16**	**J**	0.23	0.056	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.035	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.043	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorohexanesulfonic acid (PFHxS)	**0.48**		0.23	0.034	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Perfluorooctanesulfonic acid (PFOS)	**7.6**		0.23	0.050	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.036**	**J I**	0.23	0.027	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.056	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.041	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.048	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	06/15/23 18:52	06/17/23 12:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C4 PFHpA	*88*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C4 PFOA	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C5 PFNA	*82*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C2 PFDA	*83*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C2 PFUnA	*104*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C2 PFDoA	*85*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C3 PFBS	*75*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
18O2 PFHxS	*79*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C4 PFOS	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
d3-NMeFOSAA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**19.9**		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	**80.1**		0.1	0.1	%			06/08/23 10:48	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD4

Date Collected: 06/06/23 10:50
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-4

Matrix: Solid
Percent Solids: 72.9

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.0**		0.25	0.038	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluoroheptanoic acid (PFHpA)	**0.19**	**J**	0.25	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorooctanoic acid (PFOA)	**1.1**		0.25	0.066	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.027	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorodecanoic acid (PFDA)	**0.46**		0.25	0.059	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.052	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.037	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.026	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.046	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.25	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**		0.25	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Perfluorooctanesulfonic acid (PFOS)	**19**		0.25	0.053	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.25	0.029	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.25**		0.25	0.059	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.25	0.043	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.25	0.051	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.25	0.038	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	**0.063**	**J**	0.25	0.048	ug/Kg	☼	06/15/23 18:52	06/17/23 12:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*83*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C4 PFHpA	*85*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C4 PFOA	*83*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C5 PFNA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C2 PFDA	*74*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C2 PFUnA	*87*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C2 PFDoA	*85*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C3 PFBS	*68*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
18O2 PFHxS	*82*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C4 PFOS	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
d3-NMeFOSAA	*76*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*06/15/23 18:52*	*06/17/23 12:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**27.1**		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	**72.9**		0.1	0.1	%			06/08/23 10:48	1

Client Sample ID: 108906-SD5

Date Collected: 06/06/23 11:10
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-5

Matrix: Solid
Percent Solids: 82.2

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.87**		0.22	0.035	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluoroheptanoic acid (PFHpA)	**0.17**	**J**	0.22	0.043	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorooctanoic acid (PFOA)	**1.4**		0.22	0.059	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorononanoic acid (PFNA)	**0.46**		0.22	0.025	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorodecanoic acid (PFDA)	**0.65**		0.22	0.054	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.034	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.024	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.041	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.043	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**		0.22	0.033	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.026	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.20**	**J**	0.22	0.054	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.22	0.039	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.046	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.22	0.035	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.044	ug/Kg	☼	06/15/23 18:52	06/17/23 13:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C4 PFHpA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C4 PFOA	*82*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C5 PFNA	*80*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C2 PFDA	*76*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C2 PFUnA	*96*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C2 PFDoA	*90*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C3 PFBS	*63*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
18O2 PFHxS	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C4 PFOS	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
d3-NMeFOSAA	*75*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:02*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**33**		1.1	0.24	ug/Kg	☼	06/15/23 18:52	07/22/23 20:25	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*80*		*50 - 150*	*06/15/23 18:52*	*07/22/23 20:25*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**17.8**		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	**82.2**		0.1	0.1	%			06/08/23 10:48	1

Client Sample ID: 108906-SD6

Date Collected: 06/06/23 11:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-6

Matrix: Solid
Percent Solids: 79.6

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**4.9**		0.24	0.046	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorooctanoic acid (PFOA)	**16**		0.24	0.064	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorononanoic acid (PFNA)	ND		0.24	0.027	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorodecanoic acid (PFDA)	**16**		0.24	0.058	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.24	0.051	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorododecanoic acid (PFDoA)	**11**		0.24	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorotridecanoic acid (PFTriA)	ND		0.24	0.025	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorotetradecanoic acid (PFTeA)	**2.6**		0.24	0.045	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorobutanesulfonic acid (PFBS)	**0.32**		0.24	0.046	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		0.24	0.035	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**2.4**	I	0.24	0.028	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**1.6**		0.24	0.058	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.24	0.042	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.24	0.050	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.24	0.038	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.24	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 13:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*80*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C4 PFHpA	*87*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C4 PFOA	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C5 PFNA	*71*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C2 PFDA	*74*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C2 PFUnA	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C2 PFDoA	*56*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C2 PFTeDA	*67*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C3 PFBS	*70*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
18O2 PFHxS	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C4 PFOS	*58*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
d3-NMeFOSAA	*27*	*5-	*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
d5-NEtFOSAA	*59*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:12*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**27**		24	3.8	ug/Kg	☼	06/15/23 18:52	07/22/23 20:36	100
Perfluorooctanesulfonic acid (PFOS)	**1200**		24	5.2	ug/Kg	☼	06/15/23 18:52	07/22/23 20:36	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*06/15/23 18:52*	*07/22/23 20:36*	*100*
13C4 PFOS	*77*		*50 - 150*	*06/15/23 18:52*	*07/22/23 20:36*	*100*

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD6
Date Collected: 06/06/23 11:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-6
Matrix: Solid
Percent Solids: 79.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	20.4		0.1	0.1	%			06/08/23 10:48	1
Percent Solids (ASTM D 2216)	79.6		0.1	0.1	%			06/08/23 10:48	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD15
Date Collected: 06/06/23 11:25
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-7
Matrix: Solid
Percent Solids: 78.5

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.67**	**F1**	0.23	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluoroheptanoic acid (PFHpA)	**0.12**	**J**	0.23	0.044	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorooctanoic acid (PFOA)	**0.76**	**F1**	0.23	0.061	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorononanoic acid (PFNA)	**0.32**		0.23	0.025	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorodecanoic acid (PFDA)	**0.41**	**F1**	0.23	0.055	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.048	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.034	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.024	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.042	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.044	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**F2 F1**	0.23	0.033	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Perfluorooctanesulfonic acid (PFOS)	**20**	**F2**	0.23	0.049	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.16**	**J I**	0.23	0.026	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.14**	**J**	0.23	0.055	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.23	0.040	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.047	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.23	0.036	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.045	ug/Kg	☼	06/15/23 18:52	06/17/23 13:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C4 PFHpA	*90*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C4 PFOA	*88*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C5 PFNA	*86*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C2 PFDA	*80*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C2 PFUnA	*96*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C2 PFDoA	*96*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C2 PFTeDA	*78*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C3 PFBS	*73*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
18O2 PFHxS	*85*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C4 PFOS	*82*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
d3-NMeFOSAA	*76*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
d5-NEtFOSAA	*71*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*
13C3 HFPO-DA	*108*		*50 - 150*	*06/15/23 18:52*	*06/17/23 13:22*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**21.5**		0.1	0.1	%			06/08/23 14:32	1
Percent Solids (ASTM D 2216)	**78.5**		0.1	0.1	%			06/08/23 14:32	1

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW1

Date Collected: 06/06/23 09:50
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-8

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**240**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorooctanoic acid (PFOA)	**270**		1.7	0.71	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorononanoic acid (PFNA)	**61**		1.7	0.23	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorodecanoic acid (PFDA)	**19**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorobutanesulfonic acid (PFBS)	**36**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 18:31	1
Perfluorohexanesulfonic acid (PFHxS)	**290**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 18:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		06/19/23 12:18	07/01/23 18:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		06/19/23 12:18	07/01/23 18:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 18:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		06/19/23 12:18	07/01/23 18:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 18:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		06/19/23 12:18	07/01/23 18:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*82*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C4 PFOA	*85*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C5 PFNA	*81*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C2 PFDA	*80*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C2 PFUnA	*81*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C2 PFDoA	*66*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C2 PFTeDA	*45*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C3 PFBS	*75*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
18O2 PFHxS	*84*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C4 PFOS	*84*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
d3-NMeFOSAA	*90*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
d5-NEtFOSAA	*93*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*
13C3 HFPO-DA	*70*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:31*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1000**		17	4.9	ng/L		06/19/23 12:18	07/13/23 09:54	10
Perfluorooctanesulfonic acid (PFOS)	**1200**		17	4.5	ng/L		06/19/23 12:18	07/13/23 09:54	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*76*		*50 - 150*	*06/19/23 12:18*	*07/13/23 09:54*	*10*
13C4 PFOS	*73*		*50 - 150*	*06/19/23 12:18*	*07/13/23 09:54*	*10*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW2

Date Collected: 06/06/23 10:10
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-9

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**140**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorooctanoic acid (PFOA)	**190**		1.7	0.70	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorononanoic acid (PFNA)	**41**		1.7	0.22	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorodecanoic acid (PFDA)	**22**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.91	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.60	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorobutanesulfonic acid (PFBS)	**32**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 18:41	1
Perfluorohexanesulfonic acid (PFHxS)	**250**		1.7	0.47	ng/L		06/19/23 12:18	07/01/23 18:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.99	ng/L		06/19/23 12:18	07/01/23 18:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.1	ng/L		06/19/23 12:18	07/01/23 18:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 18:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		06/19/23 12:18	07/01/23 18:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 18:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		06/19/23 12:18	07/01/23 18:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*76*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C4 PFOA	*85*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C5 PFNA	*75*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C2 PFDA	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C2 PFUnA	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C2 PFDoA	*64*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C2 PFTeDA	*36*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C3 PFBS	*68*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
18O2 PFHxS	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C4 PFOS	*81*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
d3-NMeFOSAA	*91*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
d5-NEtFOSAA	*94*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*
13C3 HFPO-DA	*66*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:41*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**680**		17	4.8	ng/L		06/19/23 12:18	07/13/23 10:04	10
Perfluorooctanesulfonic acid (PFOS)	**1100**		17	4.5	ng/L		06/19/23 12:18	07/13/23 10:04	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*77*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:04*	*10*
13C4 PFOS	*75*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:04*	*10*

Client Sample ID: 108906-SW3
Date Collected: 06/06/23 10:30
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-10
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**270**		1.7	0.49	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluoroheptanoic acid (PFHpA)	**57**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorooctanoic acid (PFOA)	**96**		1.7	0.71	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorononanoic acid (PFNA)	**25**		1.7	0.23	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorodecanoic acid (PFDA)	**17**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorobutanesulfonic acid (PFBS)	**26**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 18:52	1
Perfluorohexanesulfonic acid (PFHxS)	**160**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 18:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		06/19/23 12:18	07/01/23 18:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		06/19/23 12:18	07/01/23 18:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 18:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		06/19/23 12:18	07/01/23 18:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 18:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		06/19/23 12:18	07/01/23 18:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C4 PFHpA	*71*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C4 PFOA	*82*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C5 PFNA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C2 PFDA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C2 PFUnA	*76*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C2 PFDoA	*62*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C2 PFTeDA	*42*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C3 PFBS	*66*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
18O2 PFHxS	*71*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C4 PFOS	*77*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*
13C3 HFPO-DA	*66*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:52*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**860**		17	4.5	ng/L		06/19/23 12:18	07/13/23 10:15	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*69*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:15*	*10*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW4
Date Collected: 06/06/23 10:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-11
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**270**		1.7	0.51	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluoroheptanoic acid (PFHpA)	**56**		1.7	0.22	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorooctanoic acid (PFOA)	**100**		1.7	0.74	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorononanoic acid (PFNA)	**23**		1.7	0.24	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorodecanoic acid (PFDA)	**19**		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.96	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.64	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorobutanesulfonic acid (PFBS)	**33**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 19:02	1
Perfluorohexanesulfonic acid (PFHxS)	**180**		1.7	0.50	ng/L		06/19/23 12:18	07/01/23 19:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.0	ng/L		06/19/23 12:18	07/01/23 19:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.1	ng/L		06/19/23 12:18	07/01/23 19:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 19:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.5	1.3	ng/L		06/19/23 12:18	07/01/23 19:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.28	ng/L		06/19/23 12:18	07/01/23 19:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.35	ng/L		06/19/23 12:18	07/01/23 19:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*92*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C4 PFHpA	*83*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C4 PFOA	*97*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C5 PFNA	*86*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C2 PFDA	*90*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C2 PFUnA	*96*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C2 PFDoA	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C2 PFTeDA	*42*	*5-	*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C3 PFBS	*84*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
18O2 PFHxS	*92*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C4 PFOS	*98*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
d3-NMeFOSAA	*112*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
d5-NEtFOSAA	*121*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*
13C3 HFPO-DA	*77*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:02*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**850**		17	4.7	ng/L		06/19/23 12:18	07/13/23 10:25	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*100*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:25*	*10*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW5
Date Collected: 06/06/23 11:05
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-12
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**120**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluoroheptanoic acid (PFHpA)	**26**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorooctanoic acid (PFOA)	**52**		1.7	0.71	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorononanoic acid (PFNA)	**12**		1.7	0.23	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorodecanoic acid (PFDA)	**13**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorobutanesulfonic acid (PFBS)	**26**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 19:12	1
Perfluorohexanesulfonic acid (PFHxS)	**120**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 19:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		06/19/23 12:18	07/01/23 19:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		06/19/23 12:18	07/01/23 19:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 19:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.3	ng/L		06/19/23 12:18	07/01/23 19:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 19:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		06/19/23 12:18	07/01/23 19:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*81*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C4 PFHpA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C4 PFOA	*86*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C5 PFNA	*82*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C2 PFDA	*83*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C2 PFUnA	*84*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C2 PFDoA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C2 PFTeDA	*43*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C3 PFBS	*69*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
18O2 PFHxS	*76*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C4 PFOS	*82*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
d3-NMeFOSAA	*94*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
d5-NEtFOSAA	*105*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*
13C3 HFPO-DA	*68*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:12*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**520**		17	4.5	ng/L		06/19/23 12:18	07/13/23 10:35	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*72*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:35*	*10*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW6

Date Collected: 06/06/23 11:40
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-13

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**30000**		160	48	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluoroheptanoic acid (PFHpA)	**9200**		160	21	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorooctanoic acid (PFOA)	**13000**		160	70	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorononanoic acid (PFNA)	**1700**		160	22	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorodecanoic acid (PFDA)	**1500**		160	25	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluoroundecanoic acid (PFUnA)	ND		160	90	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorododecanoic acid (PFDoA)	ND		160	45	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorotridecanoic acid (PFTriA)	ND		160	110	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorotetradecanoic acid (PFTeA)	ND		160	60	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorobutanesulfonic acid (PFBS)	**530**		160	16	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorohexanesulfonic acid (PFHxS)	**12000**		160	47	ng/L		06/19/23 12:18	07/13/23 10:46	100
Perfluorooctanesulfonic acid (PFOS)	**130000**	**E**	160	44	ng/L		06/19/23 12:18	07/13/23 10:46	100
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		410	98	ng/L		06/19/23 12:18	07/13/23 10:46	100
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		410	110	ng/L		06/19/23 12:18	07/13/23 10:46	100
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		160	20	ng/L		06/19/23 12:18	07/13/23 10:46	100
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		330	120	ng/L		06/19/23 12:18	07/13/23 10:46	100
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		160	26	ng/L		06/19/23 12:18	07/13/23 10:46	100
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		160	33	ng/L		06/19/23 12:18	07/13/23 10:46	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C4 PFHpA	*70*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C4 PFOA	*72*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C5 PFNA	*69*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C2 PFDA	*75*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C2 PFUnA	*70*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C2 PFDoA	*61*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C2 PFTeDA	*37*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C3 PFBS	*72*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
18O2 PFHxS	*69*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C4 PFOS	*59*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
d3-NMeFOSAA	*60*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
d5-NEtFOSAA	*67*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*
13C3 HFPO-DA	*63*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:46*	*100*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW7
Date Collected: 06/06/23 11:30
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-14
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**33000**		170	50	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluoroheptanoic acid (PFHpA)	**10000**		170	21	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorooctanoic acid (PFOA)	**14000**		170	73	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorononanoic acid (PFNA)	**1500**		170	23	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorodecanoic acid (PFDA)	**1300**		170	27	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluoroundecanoic acid (PFUnA)	ND		170	94	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorododecanoic acid (PFDoA)	ND		170	47	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorotridecanoic acid (PFTriA)	ND		170	110	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorotetradecanoic acid (PFTeA)	ND		170	63	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorobutanesulfonic acid (PFBS)	**720**		170	17	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorohexanesulfonic acid (PFHxS)	**12000**		170	49	ng/L		06/19/23 12:18	07/13/23 10:56	100
Perfluorooctanesulfonic acid (PFOS)	**97000**	**E**	170	46	ng/L		06/19/23 12:18	07/13/23 10:56	100
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		430	100	ng/L		06/19/23 12:18	07/13/23 10:56	100
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		430	110	ng/L		06/19/23 12:18	07/13/23 10:56	100
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		170	21	ng/L		06/19/23 12:18	07/13/23 10:56	100
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		340	130	ng/L		06/19/23 12:18	07/13/23 10:56	100
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		170	27	ng/L		06/19/23 12:18	07/13/23 10:56	100
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		170	34	ng/L		06/19/23 12:18	07/13/23 10:56	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C4 PFHpA	*67*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C4 PFOA	*60*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C5 PFNA	*62*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C2 PFDA	*63*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C2 PFUnA	*56*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C2 PFDoA	*46*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C2 PFTeDA	*32*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C3 PFBS	*59*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
18O2 PFHxS	*68*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C4 PFOS	*58*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
d3-NMeFOSAA	*55*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
d5-NEtFOSAA	*59*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*
13C3 HFPO-DA	*54*		*50 - 150*	*06/19/23 12:18*	*07/13/23 10:56*	*100*

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW8
Date Collected: 06/06/23 12:00
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-15
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**93**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluoroheptanoic acid (PFHpA)	**60**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorooctanoic acid (PFOA)	**52**		1.7	0.70	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorononanoic acid (PFNA)	**22**		1.7	0.22	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorodecanoic acid (PFDA)	**2.9**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.91	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.60	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorohexanesulfonic acid (PFHxS)	**64**		1.7	0.47	ng/L		06/19/23 12:18	07/01/23 19:53	1
Perfluorooctanesulfonic acid (PFOS)	**49**		1.7	0.45	ng/L		06/19/23 12:18	07/01/23 19:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.99	ng/L		06/19/23 12:18	07/01/23 19:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.1	ng/L		06/19/23 12:18	07/01/23 19:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 19:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.3	1.2	ng/L		06/19/23 12:18	07/01/23 19:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 19:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		06/19/23 12:18	07/01/23 19:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*67*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C4 PFHpA	*67*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C4 PFOA	*73*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C5 PFNA	*71*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C2 PFDA	*68*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C2 PFUnA	*67*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C2 PFDoA	*61*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C2 PFTeDA	*46*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C3 PFBS	*58*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
18O2 PFHxS	*65*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C4 PFOS	*69*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
d3-NMeFOSAA	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
d5-NEtFOSAA	*78*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*
13C3 HFPO-DA	*59*		*50 - 150*	*06/19/23 12:18*	*07/01/23 19:53*	*1*

Client Sample ID: 108906-SW15
Date Collected: 06/06/23 11:20
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-16
Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**120**		1.7	0.49	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluoroheptanoic acid (PFHpA)	**25**		1.7	0.21	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorooctanoic acid (PFOA)	**51**		1.7	0.71	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorononanoic acid (PFNA)	**12**		1.7	0.23	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorodecanoic acid (PFDA)	**15**		1.7	0.26	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorobutanesulfonic acid (PFBS)	**25**		1.7	0.17	ng/L		06/19/23 12:18	07/01/23 20:03	1
Perfluorohexanesulfonic acid (PFHxS)	**120**		1.7	0.48	ng/L		06/19/23 12:18	07/01/23 20:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.0	ng/L		06/19/23 12:18	07/01/23 20:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.1	ng/L		06/19/23 12:18	07/01/23 20:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.20	ng/L		06/19/23 12:18	07/01/23 20:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.4	1.3	ng/L		06/19/23 12:18	07/01/23 20:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.27	ng/L		06/19/23 12:18	07/01/23 20:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		06/19/23 12:18	07/01/23 20:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*76*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C4 PFHpA	*70*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C4 PFOA	*82*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C5 PFNA	*79*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C2 PFDA	*77*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C2 PFUnA	*77*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C2 PFDoA	*62*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C2 PFTeDA	*38*	**5-*	*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C3 PFBS	*65*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
18O2 PFHxS	*70*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C4 PFOS	*80*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
d3-NMeFOSAA	*90*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
d5-NEtFOSAA	*97*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*
13C3 HFPO-DA	*65*		*50 - 150*	*06/19/23 12:18*	*07/01/23 20:03*	*1*

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**510**		8.4	2.3	ng/L		06/19/23 12:18	07/13/23 09:44	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*71*		*50 - 150*	*06/19/23 12:18*	*07/13/23 09:44*	*5*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-101244-1	108906-SD1	88	81	85	79	73	91	86	86
320-101244-1 - DL	108906-SD1								
320-101244-2	108906-SD2	90	88	84	81	78	97	93	80
320-101244-3	108906-SD3	93	88	84	82	83	104	85	84
320-101244-4	108906-SD4	83	85	83	81	74	87	85	83
320-101244-5	108906-SD5	86	81	82	80	76	96	90	84
320-101244-5 - DL	108906-SD5								
320-101244-6	108906-SD6	80	87	86	71	74	73	56	67
320-101244-6 - DL	108906-SD6	91							
320-101244-7	108906-SD15	93	90	88	86	80	96	96	78
320-101244-7 MS	108906-SD15	84	86	88	85	76	87	95	80
320-101244-7 MSD	108906-SD15	79	80	84	84	67	66	80	81
LCS 320-683605/2-A	Lab Control Sample	100	89	84	88	93	100	89	81
MB 320-683605/1-A	Method Blank	87	90	87	81	88	99	90	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-101244-1	108906-SD1	67	87	79	74	76	92		
320-101244-1 - DL	108906-SD1			78					
320-101244-2	108906-SD2	77	86	82	78	72	99		
320-101244-3	108906-SD3	75	79	84	81	73	99		
320-101244-4	108906-SD4	68	82	81	76	73	94		
320-101244-5	108906-SD5	63	81	81	75	73	93		
320-101244-5 - DL	108906-SD5			80					
320-101244-6	108906-SD6	70	86	58	27 *5-	59	98		
320-101244-6 - DL	108906-SD6			77					
320-101244-7	108906-SD15	73	85	82	76	71	108		
320-101244-7 MS	108906-SD15	69	81	79	75	71	101		
320-101244-7 MSD	108906-SD15	59	82	71	63	59	86		
LCS 320-683605/2-A	Lab Control Sample	88	89	87	86	82	95		
MB 320-683605/1-A	Method Blank	84	79	89	84	81	91		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-101244-8	108906-SW1		82	85	81	80	81	66	45 *5-
320-101244-8 - DL	108906-SW1	76							
320-101244-9	108906-SW2		76	85	75	78	78	64	36 *5-
320-101244-9 - DL	108906-SW2	77							
320-101244-10	108906-SW3	73	71	82	73	73	76	62	42 *5-
320-101244-10 - DL	108906-SW3								
320-101244-11	108906-SW4	92	83	97	86	90	96	78	42 *5-
320-101244-11 - DL	108906-SW4								
320-101244-12	108906-SW5	81	73	86	82	83	84	73	43 *5-
320-101244-12 - DL	108906-SW5								
320-101244-13	108906-SW6	115	70	72	69	75	70	61	37 *5-
320-101244-14	108906-SW7	106	67	60	62	63	56	46 *5-	32 *5-
320-101244-15	108906-SW8	67	67	73	71	68	67	61	46 *5-
320-101244-16	108906-SW15	76	70	82	79	77	77	62	38 *5-
320-101244-16 - DL	108906-SW15								
LCS 320-684152/2-A	Lab Control Sample	93	93	101	98	99	100	93	89
LCSD 320-684152/3-A	Lab Control Sample Dup	99	101	107	104	95	98	100	94
MB 320-684152/1-A	Method Blank	90	87	97	97	95	95	93	88

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-101244-8	108906-SW1	75	84	84	90	93	70		
320-101244-8 - DL	108906-SW1			73					
320-101244-9	108906-SW2	68	78	81	91	94	66		
320-101244-9 - DL	108906-SW2			75					
320-101244-10	108906-SW3	66	71	77	85	95	66		
320-101244-10 - DL	108906-SW3			69					
320-101244-11	108906-SW4	84	92	98	112	121	77		
320-101244-11 - DL	108906-SW4			100					
320-101244-12	108906-SW5	69	76	82	94	105	68		
320-101244-12 - DL	108906-SW5			72					
320-101244-13	108906-SW6	72	69	59	60	67	63		
320-101244-14	108906-SW7	59	68	58	55	59	54		
320-101244-15	108906-SW8	58	65	69	78	78	59		
320-101244-16	108906-SW15	65	70	80	90	97	65		
320-101244-16 - DL	108906-SW15			71					
LCS 320-684152/2-A	Lab Control Sample	94	95	96	107	105	91		
LCSD 320-684152/3-A	Lab Control Sample Dup	92	99	96	90	101	92		
MB 320-684152/1-A	Method Blank	85	92	96	110	106	90		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-683605/1-A
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683605

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.021	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.023	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.048	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.20	0.035	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.041	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.20	0.031	ug/Kg		06/15/23 18:52	06/17/23 10:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		06/15/23 18:52	06/17/23 10:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C4 PFHpA	*90*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C4 PFOA	*87*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C5 PFNA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C2 PFDA	*88*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C2 PFUnA	*99*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C2 PFDoA	*90*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C3 PFBS	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
18O2 PFHxS	*79*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C4 PFOS	*89*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
d3-NMeFOSAA	*84*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
d5-NEtFOSAA	*81*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*
13C3 HFPO-DA	*91*		*50 - 150*	*06/15/23 18:52*	*06/17/23 10:28*	*1*

Lab Sample ID: LCS 320-683605/2-A
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	2.07		ug/Kg		103	70 - 132
Perfluoroheptanoic acid (PFHpA)	2.00	2.20		ug/Kg		110	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.33		ug/Kg		117	69 - 133
Perfluorononanoic acid (PFNA)	2.00	2.25		ug/Kg		113	72 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-683605/2-A
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	2.00	1.98		ug/Kg		99	69 - 133
Perfluoroundecanoic acid (PFUnA)	2.00	1.90		ug/Kg		95	64 - 136
Perfluorododecanoic acid (PFDoA)	2.00	2.10		ug/Kg		105	69 - 135
Perfluorotridecanoic acid (PFTriA)	2.00	1.83		ug/Kg		91	66 - 139
Perfluorotetradecanoic acid (PFTeA)	2.00	1.93		ug/Kg		97	69 - 133
Perfluorobutanesulfonic acid (PFBS)	1.78	1.79		ug/Kg		101	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.84		ug/Kg		101	67 - 130
Perfluorooctanesulfonic acid (PFOS)	1.86	1.97		ug/Kg		106	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.36		ug/Kg		118	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.08		ug/Kg		104	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	2.34		ug/Kg		125	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	2.35		ug/Kg		118	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.90		ug/Kg		100	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.12		ug/Kg		112	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*100*		*50 - 150*
13C4 PFHpA	*89*		*50 - 150*
13C4 PFOA	*84*		*50 - 150*
13C5 PFNA	*88*		*50 - 150*
13C2 PFDA	*93*		*50 - 150*
13C2 PFUnA	*100*		*50 - 150*
13C2 PFDoA	*89*		*50 - 150*
13C2 PFTeDA	*81*		*50 - 150*
13C3 PFBS	*88*		*50 - 150*
18O2 PFHxS	*89*		*50 - 150*
13C4 PFOS	*87*		*50 - 150*
d3-NMeFOSAA	*86*		*50 - 150*
d5-NEtFOSAA	*82*		*50 - 150*
13C3 HFPO-DA	*95*		*50 - 150*

Lab Sample ID: 320-101244-7 MS
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: 108906-SD15
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	0.67	F1	2.48	4.00	F1	ug/Kg	☼	134	70 - 132
Perfluoroheptanoic acid (PFHpA)	0.12	J	2.48	2.98		ug/Kg	☼	116	71 - 131
Perfluorooctanoic acid (PFOA)	0.76	F1	2.48	3.81		ug/Kg	☼	123	69 - 133

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-101244-7 MS
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: 108906-SD15
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	0.32		2.48	3.35		ug/Kg	☼	122	72 - 129
Perfluorodecanoic acid (PFDA)	0.41	F1	2.48	3.52		ug/Kg	☼	125	69 - 133
Perfluoroundecanoic acid (PFUnA)	ND		2.48	2.90		ug/Kg	☼	117	64 - 136
Perfluorododecanoic acid (PFDoA)	ND		2.48	2.38		ug/Kg	☼	96	69 - 135
Perfluorotridecanoic acid (PFTriA)	ND		2.48	1.71		ug/Kg	☼	69	66 - 139
Perfluorotetradecanoic acid (PFTeA)	ND		2.48	2.71		ug/Kg	☼	109	69 - 133
Perfluorobutanesulfonic acid (PFBS)	ND		2.20	2.48		ug/Kg	☼	113	72 - 128
Perfluorohexanesulfonic acid (PFHxS)	1.0	F2 F1	2.26	4.16	F1	ug/Kg	☼	139	67 - 130
Perfluorooctanesulfonic acid (PFOS)	20	F2	2.31	43.3	E 4	ug/Kg	☼	1000	68 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.16	J I	2.48	3.10		ug/Kg	☼	119	63 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	2.48	3.03		ug/Kg	☼	116	61 - 139
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.32	2.93		ug/Kg	☼	127	75 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.48	2.82		ug/Kg	☼	114	77 - 137
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.34	2.76		ug/Kg	☼	118	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.34	2.74		ug/Kg	☼	117	79 - 139

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*84*		*50 - 150*
13C4 PFHpA	*86*		*50 - 150*
13C4 PFOA	*88*		*50 - 150*
13C5 PFNA	*85*		*50 - 150*
13C2 PFDA	*76*		*50 - 150*
13C2 PFUnA	*87*		*50 - 150*
13C2 PFDoA	*95*		*50 - 150*
13C2 PFTeDA	*80*		*50 - 150*
13C3 PFBS	*69*		*50 - 150*
18O2 PFHxS	*81*		*50 - 150*
13C4 PFOS	*79*		*50 - 150*
d3-NMeFOSAA	*75*		*50 - 150*
d5-NEtFOSAA	*71*		*50 - 150*
13C3 HFPO-DA	*101*		*50 - 150*

Lab Sample ID: 320-101244-7 MSD
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: 108906-SD15
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	0.67	F1	2.50	4.11	F1	ug/Kg	☼	137	70 - 132	3	30
Perfluoroheptanoic acid (PFHpA)	0.12	J	2.50	3.11		ug/Kg	☼	120	71 - 131	4	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: 320-101244-7 MSD
Matrix: Solid
Analysis Batch: 683882

Client Sample ID: 108906-SD15
Prep Type: Total/NA
Prep Batch: 683605

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	0.76	F1	2.50	4.68	F1	ug/Kg	☼	156	69 - 133	21	30
Perfluorononanoic acid (PFNA)	0.32		2.50	3.16		ug/Kg	☼	113	72 - 129	6	30
Perfluorodecanoic acid (PFDA)	0.41	F1	2.50	4.05	F1	ug/Kg	☼	145	69 - 133	14	30
Perfluoroundecanoic acid (PFUnA)	ND		2.50	3.34		ug/Kg	☼	133	64 - 136	14	30
Perfluorododecanoic acid (PFDoA)	ND		2.50	2.83		ug/Kg	☼	113	69 - 135	17	30
Perfluorotridecanoic acid (PFTriA)	ND		2.50	2.11		ug/Kg	☼	84	66 - 139	21	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.50	2.31		ug/Kg	☼	92	69 - 133	16	30
Perfluorobutanesulfonic acid (PFBS)	ND		2.22	2.50		ug/Kg	☼	113	72 - 128	1	30
Perfluorohexanesulfonic acid (PFHxS)	1.0	F2 F1	2.28	5.68	F1 F2	ug/Kg	☼	204	67 - 130	31	30
Perfluorooctanesulfonic acid (PFOS)	20	F2	2.33	92.4	E 4 F2	ug/Kg	☼	3100	68 - 136	72	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.16	J I	2.50	2.80		ug/Kg	☼	105	63 - 144	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	2.50	3.27		ug/Kg	☼	125	61 - 139	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.34	3.04		ug/Kg	☼	130	75 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.50	2.88		ug/Kg	☼	115	77 - 137	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.36	2.41		ug/Kg	☼	102	76 - 136	14	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.36	2.82		ug/Kg	☼	119	79 - 139	3	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*79*		*50 - 150*
13C4 PFHpA	*80*		*50 - 150*
13C4 PFOA	*84*		*50 - 150*
13C5 PFNA	*84*		*50 - 150*
13C2 PFDA	*67*		*50 - 150*
13C2 PFUnA	*66*		*50 - 150*
13C2 PFDoA	*80*		*50 - 150*
13C2 PFTeDA	*81*		*50 - 150*
13C3 PFBS	*59*		*50 - 150*
18O2 PFHxS	*82*		*50 - 150*
13C4 PFOS	*71*		*50 - 150*
d3-NMeFOSAA	*63*		*50 - 150*
d5-NEtFOSAA	*59*		*50 - 150*
13C3 HFPO-DA	*86*		*50 - 150*

Lab Sample ID: MB 320-684152/1-A
Matrix: Water
Analysis Batch: 687993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		06/19/23 12:18	07/01/23 18:01	1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-684152/1-A
Matrix: Water
Analysis Batch: 687993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		06/19/23 12:18	07/01/23 18:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		06/19/23 12:18	07/01/23 18:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		06/19/23 12:18	07/01/23 18:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		06/19/23 12:18	07/01/23 18:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		06/19/23 12:18	07/01/23 18:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		06/19/23 12:18	07/01/23 18:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		06/19/23 12:18	07/01/23 18:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		06/19/23 12:18	07/01/23 18:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C4 PFHpA	*87*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C4 PFOA	*97*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C5 PFNA	*97*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C2 PFDA	*95*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C2 PFUnA	*95*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C2 PFDoA	*93*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C3 PFBS	*85*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
18O2 PFHxS	*92*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C4 PFOS	*96*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
d3-NMeFOSAA	*110*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
d5-NEtFOSAA	*106*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*
13C3 HFPO-DA	*90*		*50 - 150*	*06/19/23 12:18*	*07/01/23 18:01*	*1*

Lab Sample ID: LCS 320-684152/2-A
Matrix: Water
Analysis Batch: 687993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684152

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	44.9		ng/L		112	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	43.4		ng/L		109	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	39.7		ng/L		99	71 - 133
Perfluorononanoic acid (PFNA)	40.0	42.0		ng/L		105	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	41.7		ng/L		104	71 - 129

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-684152/2-A
Matrix: Water
Analysis Batch: 687993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684152

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	40.1		ng/L		100	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	44.7		ng/L		112	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	44.0		ng/L		110	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	40.5		ng/L		101	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	37.0		ng/L		104	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.4		ng/L		100	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	39.1		ng/L		105	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.6		ng/L		109	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.4		ng/L		108	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	37.2		ng/L		100	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	43.7		ng/L		109	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	38.2		ng/L		101	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.7		ng/L		111	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*93*		*50 - 150*
13C4 PFHpA	*93*		*50 - 150*
13C4 PFOA	*101*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C2 PFDA	*99*		*50 - 150*
13C2 PFUnA	*100*		*50 - 150*
13C2 PFDoA	*93*		*50 - 150*
13C2 PFTeDA	*89*		*50 - 150*
13C3 PFBS	*94*		*50 - 150*
18O2 PFHxS	*95*		*50 - 150*
13C4 PFOS	*96*		*50 - 150*
d3-NMeFOSAA	*107*		*50 - 150*
d5-NEtFOSAA	*105*		*50 - 150*
13C3 HFPO-DA	*91*		*50 - 150*

Lab Sample ID: LCSD 320-684152/3-A
Matrix: Water
Analysis Batch: 690443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 684152

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	40.0		ng/L		100	72 - 129	12	30
Perfluoroheptanoic acid (PFHpA)	40.0	39.6		ng/L		99	72 - 130	9	30
Perfluorooctanoic acid (PFOA)	40.0	40.5		ng/L		101	71 - 133	2	30
Perfluorononanoic acid (PFNA)	40.0	42.9		ng/L		107	69 - 130	2	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-684152/3-A
Matrix: Water
Analysis Batch: 690443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 684152

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanoic acid (PFDA)			40.0	44.4		ng/L		111	71 - 129	6	30
Perfluoroundecanoic acid (PFUnA)			40.0	41.1		ng/L		103	69 - 133	3	30
Perfluorododecanoic acid (PFDoA)			40.0	42.9		ng/L		107	72 - 134	4	30
Perfluorotridecanoic acid (PFTriA)			40.0	39.9		ng/L		100	65 - 144	10	30
Perfluorotetradecanoic acid (PFTeA)			40.0	37.7		ng/L		94	71 - 132	7	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.9		ng/L		107	72 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	34.2		ng/L		94	68 - 131	6	30
Perfluorooctanesulfonic acid (PFOS)			37.2	37.0		ng/L		99	65 - 140	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	40.7		ng/L		102	65 - 136	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	38.6		ng/L		96	61 - 135	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	35.2		ng/L		94	77 - 137	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	39.8		ng/L		99	72 - 132	9	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	36.9		ng/L		98	76 - 136	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	40.6		ng/L		107	81 - 141	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*99*		*50 - 150*
13C4 PFHpA	*101*		*50 - 150*
13C4 PFOA	*107*		*50 - 150*
13C5 PFNA	*104*		*50 - 150*
13C2 PFDA	*95*		*50 - 150*
13C2 PFUnA	*98*		*50 - 150*
13C2 PFDoA	*100*		*50 - 150*
13C2 PFTeDA	*94*		*50 - 150*
13C3 PFBS	*92*		*50 - 150*
18O2 PFHxS	*99*		*50 - 150*
13C4 PFOS	*96*		*50 - 150*
d3-NMeFOSAA	*90*		*50 - 150*
d5-NEtFOSAA	*101*		*50 - 150*
13C3 HFPO-DA	*92*		*50 - 150*

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-101180-D-14 DU
Matrix: Solid
Analysis Batch: 681297

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	16.5			16.7		%				1	20

Method: D 2216 - Percent Moisture (Continued)

Lab Sample ID: 320-101180-D-14 DU
Matrix: Solid
Analysis Batch: 681297

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	83.5			83.3		%				0.2	20

Lab Sample ID: 320-101156-E-7 DU
Matrix: Solid
Analysis Batch: 681383

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	9.9			11.0		%				11	20
Percent Solids	90.1			89.0		%				1	20

LCMS

Prep Batch: 683605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-1 - DL	108906-SD1	Total/NA	Solid	SHAKE	
320-101244-1	108906-SD1	Total/NA	Solid	SHAKE	
320-101244-2	108906-SD2	Total/NA	Solid	SHAKE	
320-101244-3	108906-SD3	Total/NA	Solid	SHAKE	
320-101244-4	108906-SD4	Total/NA	Solid	SHAKE	
320-101244-5 - DL	108906-SD5	Total/NA	Solid	SHAKE	
320-101244-5	108906-SD5	Total/NA	Solid	SHAKE	
320-101244-6 - DL	108906-SD6	Total/NA	Solid	SHAKE	
320-101244-6	108906-SD6	Total/NA	Solid	SHAKE	
320-101244-7	108906-SD15	Total/NA	Solid	SHAKE	
MB 320-683605/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-683605/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-101244-7 MS	108906-SD15	Total/NA	Solid	SHAKE	
320-101244-7 MSD	108906-SD15	Total/NA	Solid	SHAKE	

Analysis Batch: 683882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-1	108906-SD1	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-2	108906-SD2	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-3	108906-SD3	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-4	108906-SD4	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-5	108906-SD5	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-6	108906-SD6	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-7	108906-SD15	Total/NA	Solid	EPA 537(Mod)	683605
MB 320-683605/1-A	Method Blank	Total/NA	Solid	EPA 537(Mod)	683605
LCS 320-683605/2-A	Lab Control Sample	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-7 MS	108906-SD15	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-7 MSD	108906-SD15	Total/NA	Solid	EPA 537(Mod)	683605

Prep Batch: 684152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-8	108906-SW1	Total/NA	Water	3535	
320-101244-8 - DL	108906-SW1	Total/NA	Water	3535	
320-101244-9	108906-SW2	Total/NA	Water	3535	
320-101244-9 - DL	108906-SW2	Total/NA	Water	3535	
320-101244-10	108906-SW3	Total/NA	Water	3535	
320-101244-10 - DL	108906-SW3	Total/NA	Water	3535	
320-101244-11	108906-SW4	Total/NA	Water	3535	
320-101244-11 - DL	108906-SW4	Total/NA	Water	3535	
320-101244-12	108906-SW5	Total/NA	Water	3535	
320-101244-12 - DL	108906-SW5	Total/NA	Water	3535	
320-101244-13	108906-SW6	Total/NA	Water	3535	
320-101244-14	108906-SW7	Total/NA	Water	3535	
320-101244-15	108906-SW8	Total/NA	Water	3535	
320-101244-16	108906-SW15	Total/NA	Water	3535	
320-101244-16 - DL	108906-SW15	Total/NA	Water	3535	
MB 320-684152/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-684152/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-684152/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

LCMS

Analysis Batch: 687993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-8	108906-SW1	Total/NA	Water	EPA 537(Mod)	684152
320-101244-9	108906-SW2	Total/NA	Water	EPA 537(Mod)	684152
320-101244-10	108906-SW3	Total/NA	Water	EPA 537(Mod)	684152
320-101244-11	108906-SW4	Total/NA	Water	EPA 537(Mod)	684152
320-101244-12	108906-SW5	Total/NA	Water	EPA 537(Mod)	684152
320-101244-15	108906-SW8	Total/NA	Water	EPA 537(Mod)	684152
320-101244-16	108906-SW15	Total/NA	Water	EPA 537(Mod)	684152
MB 320-684152/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	684152
LCS 320-684152/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	684152

Analysis Batch: 690443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-8 - DL	108906-SW1	Total/NA	Water	EPA 537(Mod)	684152
320-101244-9 - DL	108906-SW2	Total/NA	Water	EPA 537(Mod)	684152
320-101244-10 - DL	108906-SW3	Total/NA	Water	EPA 537(Mod)	684152
320-101244-11 - DL	108906-SW4	Total/NA	Water	EPA 537(Mod)	684152
320-101244-12 - DL	108906-SW5	Total/NA	Water	EPA 537(Mod)	684152
320-101244-13	108906-SW6	Total/NA	Water	EPA 537(Mod)	684152
320-101244-14	108906-SW7	Total/NA	Water	EPA 537(Mod)	684152
320-101244-16 - DL	108906-SW15	Total/NA	Water	EPA 537(Mod)	684152
LCSD 320-684152/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	684152

Analysis Batch: 693087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-1 - DL	108906-SD1	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-5 - DL	108906-SD5	Total/NA	Solid	EPA 537(Mod)	683605
320-101244-6 - DL	108906-SD6	Total/NA	Solid	EPA 537(Mod)	683605

General Chemistry

Analysis Batch: 681297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-1	108906-SD1	Total/NA	Solid	D 2216	
320-101244-2	108906-SD2	Total/NA	Solid	D 2216	
320-101244-3	108906-SD3	Total/NA	Solid	D 2216	
320-101244-4	108906-SD4	Total/NA	Solid	D 2216	
320-101244-5	108906-SD5	Total/NA	Solid	D 2216	
320-101244-6	108906-SD6	Total/NA	Solid	D 2216	
320-101180-D-14 DU	Duplicate	Total/NA	Solid	D 2216	

Analysis Batch: 681383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-101244-7	108906-SD15	Total/NA	Solid	D 2216	
320-101156-E-7 DU	Duplicate	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD1
Date Collected: 06/06/23 10:00
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD1
Date Collected: 06/06/23 10:00
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-1
Matrix: Solid
Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.20 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	693087	07/22/23 20:14	K1S	EET SAC
Total/NA	Prep	SHAKE			5.20 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 12:21	RS1	EET SAC

Client Sample ID: 108906-SD2
Date Collected: 06/06/23 10:15
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD2
Date Collected: 06/06/23 10:15
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-2
Matrix: Solid
Percent Solids: 70.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.50 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 12:31	RS1	EET SAC

Client Sample ID: 108906-SD3
Date Collected: 06/06/23 10:35
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD3
Date Collected: 06/06/23 10:35
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-3
Matrix: Solid
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 12:41	RS1	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD4
Date Collected: 06/06/23 10:50
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD4
Date Collected: 06/06/23 10:50
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-4
Matrix: Solid
Percent Solids: 72.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.53 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 12:52	RS1	EET SAC

Client Sample ID: 108906-SD5
Date Collected: 06/06/23 11:10
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD5
Date Collected: 06/06/23 11:10
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-5
Matrix: Solid
Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.42 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	693087	07/22/23 20:25	K1S	EET SAC
Total/NA	Prep	SHAKE			5.42 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 13:02	RS1	EET SAC

Client Sample ID: 108906-SD6
Date Collected: 06/06/23 11:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681297	06/08/23 10:48	H1Z	EET SAC

Client Sample ID: 108906-SD6
Date Collected: 06/06/23 11:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-6
Matrix: Solid
Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.19 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	100	1 mL	1 mL	693087	07/22/23 20:36	K1S	EET SAC
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 13:12	RS1	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SD15
Date Collected: 06/06/23 11:25
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			681383	06/08/23 14:32	H1Z	EET SAC

Client Sample ID: 108906-SD15
Date Collected: 06/06/23 11:25
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-7
Matrix: Solid
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.56 g	10.0 mL	683605	06/15/23 18:52	AM	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	683882	06/17/23 13:22	RS1	EET SAC

Client Sample ID: 108906-SW1
Date Collected: 06/06/23 09:50
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			298.5 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 18:31	K1S	EET SAC
Total/NA	Prep	3535	DL		298.5 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	690443	07/13/23 09:54	RS1	EET SAC

Client Sample ID: 108906-SW2
Date Collected: 06/06/23 10:10
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			301.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 18:41	K1S	EET SAC
Total/NA	Prep	3535	DL		301.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	690443	07/13/23 10:04	RS1	EET SAC

Client Sample ID: 108906-SW3
Date Collected: 06/06/23 10:30
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			297.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 18:52	K1S	EET SAC
Total/NA	Prep	3535	DL		297.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	690443	07/13/23 10:15	RS1	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW4
Date Collected: 06/06/23 10:45
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			286.5 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 19:02	K1S	EET SAC
Total/NA	Prep	3535	DL		286.5 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	690443	07/13/23 10:25	RS1	EET SAC

Client Sample ID: 108906-SW5
Date Collected: 06/06/23 11:05
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			299.3 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 19:12	K1S	EET SAC
Total/NA	Prep	3535	DL		299.3 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	10	1 mL	1 mL	690443	07/13/23 10:35	RS1	EET SAC

Client Sample ID: 108906-SW6
Date Collected: 06/06/23 11:40
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			304.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		100	1 mL	1 mL	690443	07/13/23 10:46	RS1	EET SAC

Client Sample ID: 108906-SW7
Date Collected: 06/06/23 11:30
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		100	1 mL	1 mL	690443	07/13/23 10:56	RS1	EET SAC

Client Sample ID: 108906-SW8
Date Collected: 06/06/23 12:00
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			302.1 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 19:53	K1S	EET SAC

Client Sample ID: 108906-SW15
Date Collected: 06/06/23 11:20
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			297.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)		1	1 mL	1 mL	687993	07/01/23 20:03	K1S	EET SAC

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Client Sample ID: 108906-SW15

Date Collected: 06/06/23 11:20
Date Received: 06/07/23 13:31

Lab Sample ID: 320-101244-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		297.7 mL	10.0 mL	684152	06/19/23 12:18	RAC	EET SAC
Total/NA	Analysis	EPA 537(Mod)	DL	5	1 mL	1 mL	690443	07/13/23 09:44	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

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
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: ANC Fire Training Pit

Job ID: 320-101244-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-101244-1	108906-SD1	Solid	06/06/23 10:00	06/07/23 13:31
320-101244-2	108906-SD2	Solid	06/06/23 10:15	06/07/23 13:31
320-101244-3	108906-SD3	Solid	06/06/23 10:35	06/07/23 13:31
320-101244-4	108906-SD4	Solid	06/06/23 10:50	06/07/23 13:31
320-101244-5	108906-SD5	Solid	06/06/23 11:10	06/07/23 13:31
320-101244-6	108906-SD6	Solid	06/06/23 11:45	06/07/23 13:31
320-101244-7	108906-SD15	Solid	06/06/23 11:25	06/07/23 13:31
320-101244-8	108906-SW1	Water	06/06/23 09:50	06/07/23 13:31
320-101244-9	108906-SW2	Water	06/06/23 10:10	06/07/23 13:31
320-101244-10	108906-SW3	Water	06/06/23 10:30	06/07/23 13:31
320-101244-11	108906-SW4	Water	06/06/23 10:45	06/07/23 13:31
320-101244-12	108906-SW5	Water	06/06/23 11:05	06/07/23 13:31
320-101244-13	108906-SW6	Water	06/06/23 11:40	06/07/23 13:31
320-101244-14	108906-SW7	Water	06/06/23 11:30	06/07/23 13:31
320-101244-15	108906-SW8	Water	06/06/23 12:00	06/07/23 13:31
320-101244-16	108906-SW15	Water	06/06/23 11:20	06/07/23 13:31

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins | Environment Testing America

Client Contact	Report To: Dan.McMahon@shanwil.com	Site Contact:	Date: 6/6/23	COC No:
Shannon & Wilson, Inc.	Tel/Fax:	Lab Contact: David Alltucker	Carrier: AK Goldstreak	1 of 2 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906-002
Anchorage, Alaska 99518	Calendar (C) or Work Days (W) _____			
Phone: 907-561-2120	TAT if different from Below _____			SDG No.
FAX:	☒ 2 weeks			
Project Name: ANC Fire Training Pit	☐ 1 week			
Site:	☐ 2 days			
P O # 108906-002	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes:
108906-SD1	6/6/23	1000	Grab	SOIL	1		X	
108906-SD2		1045					X	
108906-SD3		1035					X	
108906-SD4		1050					X	
108906-SD5		1110					X	
108906-SD6		1145					X	
108906-SD15		1125					X	

320-101244 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☒

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

6.3c

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Shannon + Wilson	6/6/23 13:10	[signature]	EETCA	6-7-23 1331
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Eurofins Environment Testing Northern California
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600

Chain of Custody Record

eurofins | Environment Testing America

Client Contact	Report To: Dan.McMahon@shanwil.com	Site Contact:	Date: 6/6/23	COC No:
Shannon & Wilson, Inc.	Tel/Fax:	Lab Contact: David Alltucker	Carrier: AK Goldstreak	2 of 2 COCs
5430 Fairbanks Street, Suite 3	Analysis Turnaround Time			Job No. 108906-002
Anchorage, Alaska 99518	Calendar (C) or Work Days (W) _____			SDG No.
Phone: 907-561-2120	TAT if different from Below _____			
FAX:	[X] 2 weeks			
Project Name: ANC Fire Training Pit	[ ] 1 week			
Site:	[ ] 2 days			
P O # 108906-002	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PFAS QSM 5.3 Tab. B-15	Sample Specific Notes:
108906-SW1	6/6/23	950	Grab	H_2O	2		X	
108906-SW2		1010					X	
108906-SW3		1030					X	
108906-SW4		1045					X	
108906-SW5		1105					X	
108906-SW6		1140					X	
108906-SW7		11:30					X	
108906-SW8		12:00					X	
108906-SW15		1120					X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant Poison B [ ] Unknown [X]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For _____ Months

Special Instructions/QC Requirements & Comments:

4.3c

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Zachary J Thom	Shannon + Wilson	6/6/23 13:10		EETCA	6.7.23 1331
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-101244-1

Login Number: 101244
List Number: 1
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2122572/2122573
Sample custody seals, if present, are intact.	N/A	
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.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alec Rizzo	**CS Site Name:**	AIA Fire Training Pit	**Lab Name:**	Eurofins
Title:	Geologist	**ADEC File No.:**	2100.38.028.26	**Lab Report No.:**	320-101244-1
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	414	**Lab Report Date:**	7/24/23

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Comments: *PFAS by QSM 5.3 Table B-15.*

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☐ No ☒ N/A ☐
   Cooler temperature(s): *The cooler temperature blank was 6.3° C.*

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☐ No ☐ N/A ☒
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: *The cooler was received slightly above the temperature criteria.*

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *It is our opinion that the slight temperature exceedance does not impact the usability of the results.*

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: *The case narrative noted the following:*
-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 108906-SD6 (320-101244-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.
-Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte.
-Method EPA 537(Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 320-683605 and analytical batch 320-683882 were outside control limits for one or more analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13),108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

-Method EPA 537(Mod): Results for samples 108906-SD1 (320-101244-1), 108906-SD5 (320-101244-5), 108906-SD6 (320-101244-6), 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12) and 108906-SW15 (320-101244-16) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

-Method EPA 537(Mod): The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 320-683605 and analytical batch 320-683882 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Perfluorooctanesulfonic acid (PFOS) in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

-Method EPA 537(Mod): The concentration of analyte associated with the following samples exceeded the instrument calibration range: 108906-SW6 (320-101244-13) and 108906-SW7 (320-101244-14). This analyte has been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range. The client was contacted and gave permission to report.

-Method EPA 537(Mod): Internal standard (ISTD) response for the following sample was outside control limits: 108906-SW7 (320-101244-14). The sample was re-analyzed and ISTD response was outside control limits.

-Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-684152.

-Method 3535: The following samples in preparation batch 320-684152 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13), 108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16)

-Method 3535: During the solid phase extraction process, the following samples contained non-settleable particulates which clogged the solid phase extraction column: 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13), 108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16).
-Method SHAKE: The following sample in preparation batch 320-683605 was yellow in color following extraction: 108906-SD1 (320-101244-1).
-Method SHAKE: The following sample in preparation batch 320-683605 was purple in color following extraction: 108906-SD6 (320-101244-6).

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. What is the effect on data quality/usability according to the case narrative?
Comments: *See above.*

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: *PFAS by QSM 5.3 Table B-15.*

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments*: .*

iii. If above LoQ or RL, what samples are affected?
Comments: .

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: .

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments*:*

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: *See above.*

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☒ N/A ☐
Comments: *An MS/MSD sample was not reported for the surface water samples.*

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☒ N/A ☐
Comments: *The case narrative noted the following:*
- The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 320-683605 and analytical batch 320-683882 were outside control limits for one or more analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☐ No ☒ N/A ☐
Comments: The case narrative noted the following:
- *The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 320-683605 and analytical batch 320-683882 were outside control limits for one or more analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.*

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: *All sediment samples are potentially affected.*

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *The QC failures are greater than QC criteria. Therefore, the affected analytical results are flagged "J+" in Table 5.*

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: *The case narrative noted the following:*
-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sediment sample is below the method recommended limit: 108906-SD6 (320-101244-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

-Method EPA 537(Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following surface water samples is below the method recommended limit: 108906-SW1 (320-101244-8), 108906-SW2 (320-101244-9), 108906-SW3 (320-101244-10), 108906-SW4 (320-101244-11), 108906-SW5 (320-101244-12), 108906-SW6 (320-101244-13),108906-SW7 (320-101244-14), 108906-SW8 (320-101244-15) and 108906-SW15 (320-101244-16). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: *For Sample SD6, the affected analyte is flagged "J" in Table 5. The affected analytes for the surface water samples were all reported as non-detect. Therefore, no flagging is required*.

iv. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *See above.*

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☐ No ☐ N/A ☒
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, what samples are affected?
Comments:

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: *See above.*

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: *Sediment Sample SD15 (duplicate of SD5) and surface water Sample SW15 (duplicate of SW5) were included in the work order.*

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Comments: *The RPDs were within QC criteria for both of the sediment and surface water primary/duplicate sample sets.*

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: *An equipment blank or decontamination blank was not included in this work order.*

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: *A key is included on page 4 of the laboratory report.*

Appendix G

Conceptual Site Model

Print Form

Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

Site Name: AIA Fire Training Pit

File Number: 2100.38.028.26

Completed by: Alec Rizzo

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☐ ASTs
- ☐ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☒ Other: Historical AFFF use during fire fighting training activities

Release Mechanisms *(check potential release mechanisms at the site)*

- ☒ Spills
- ☒ Leaks
- ☒ Direct discharge
- ☒ Burning
- ☐ Other:

Impacted Media *(check potentially-impacted media at the site)*

- ☒ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☐ Air
- ☒ Sediment
- ☒ Groundwater
- ☒ Surface water
- ☒ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☐ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☐ Trespasser
- ☐ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

Concentrations of GRO, DRO, benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, PFOS, and/or PFOA were detected in soil samples exceeding ADEC Method Two cleanup levels at depths shallower than 15 feet bgs.

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

Naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, PFOS, and PFOA can permeate the skin.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☒

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

Concentrations of DRO, RRO, PFOS and PFOA were detected in Well B1MW at concentrations exceeding the ADEC Table C cleanup criteria.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☒

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☐

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☒

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☒

If all of the boxes are checked, label this pathway complete: Incomplete

Comments:

PFOS and PFOA contaminants have the potential to accumulate and be taken up into biota. However, the site is not in an area that is used or reasonably used for hunting, fishing, or harvesting of wild or farmed foods.

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

GRO, benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene are volatile analytes and were detected between 0 to 15 feet bgs.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☐

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Volatile compounds were detected in both groundwater and soil at the site. However, the documented contamination is greater than 100 feet from buildings at the site.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

PFOS and/or PFOA were detected at each sediment sample location greater than ADEC Method Two cleanup criteria.

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: AIA Fire Training Pit

Completed By: Alec Rizzo

Date Completed: December 2023

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1) *Check the media that could be directly affected by the release.*

(2) *For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.*

Media	Transport Mechanisms
☑ Surface Soil (0-2 ft bgs)	☑ Direct release to surface soil — check soil ☑ Migration to subsurface — check soil ☑ Migration to groundwater — check groundwater ☑ Volatilization — check air ☐ Runoff or erosion — check surface water ☑ Uptake by plants or animals — check biota ☐ Other (list):
☑ Subsurface Soil (2-15 ft bgs)	☑ Direct release to subsurface soil — check soil ☑ Migration to groundwater — check groundwater ☑ Volatilization — check air ☐ Uptake by plants or animals — check biota ☐ Other (list):
☑ Ground-water	☑ Direct release to groundwater — check groundwater ☐ Volatilization — check air ☑ Flow to surface water body — check surface water ☑ Flow to sediment — check sediment ☑ Uptake by plants or animals — check biota ☐ Other (list):
☑ Surface Water	☑ Direct release to surface water — check surface water ☐ Volatilization — check air ☑ Sedimentation — check sediment ☑ Uptake by plants or animals — check biota ☐ Other (list):
☑ Sediment	☑ Direct release to sediment — check sediment ☐ Resuspension, runoff, or erosion — check surface water ☐ Uptake by plants or animals — check biota ☐ Other (list):

(3) *Check all exposure media identified in (2).*

(4) *Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5) *Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.*

Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ soil	☑ Incidental Soil Ingestion		C/F	C/F	C/F			
	☑ Dermal Absorption of Contaminants from Soil		C/F	C/F	C/F			
	☐ Inhalation of Fugitive Dust							
☑ groundwater	☑ Ingestion of Groundwater		C/F	C/F	F			
	☑ Dermal Absorption of Contaminants in Groundwater		C/F	C/F	F			
	☐ Inhalation of Volatile Compounds in Tap Water							
☑ air	☑ Inhalation of Outdoor Air		C/F	C/F	C/F			
	☐ Inhalation of Indoor Air							
	☐ Inhalation of Fugitive Dust							
☑ surface water	☑ Ingestion of Surface Water							
	☑ Dermal Absorption of Contaminants in Surface Water		C/F	C/F	C/F			
	☐ Inhalation of Volatile Compounds in Tap Water							
☑ sediment	☑ Direct Contact with Sediment		C/F	C/F	C/F			
☑ biota	☐ Ingestion of Wild or Farmed Foods							

Revised, 10/01/2010

Appendix H

Important Information About Your

Geotechnical/Environmental Report

SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Attachment to and part of Report: 108906-003
Date: February 2024
To: ADEC

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the GBA, Silver Spring, Maryland